SOAP

SANITARY CHEMICALS

D & O

For nearly 150 years, these two letters have symbolized Quality and Dependability in Essential Oils, Aromatic Chemicals and Perfumes. May they remind you, during these trying days to . . . . "Call D & O"

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D.O

ESTABLISHED 1798

February 1943

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58% Light Fluffy Soda Ash — Diamond Soda Crystals

76% Caustic Soda (Solid & Flake)

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"SELLING SANITARY CHEMICALS in Wartime" contains the answers to many of your most pressing wartime problems. It has been published for you. A copy is yours for the asking.

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Liquid Soaps, Floor Seals, Floor Treatments, Deodorant Blocks, Liquid Deodorants, Plumbing Specialties, Special Cleaners, Self-Polishing Waxes, Powdered Waxes. Oil Soaps, Liquid Cleaners, Disinfectants, Insecticides, Metal Polishes, Furniture Polishes, Deodorant Block Holders, Soap Dispensers.

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Leading manufacturers have depended upon us for years for the materials necessary to maintain the high quality of their finished products.

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Ionone A.B.
Ionone Methyl
Indol

Phenyl Ethyl Alcohol
Cyclamal
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Volume XIX Number 2

SOAP and SANITARY CHEMICALS

Reg. U. S. Pat. Office

FEBRUARY
1943

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MEMBER AUDIT BUREAU OF CIRCULATIONS

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254 WEST 31st STREET NEW YORK, N. Y.

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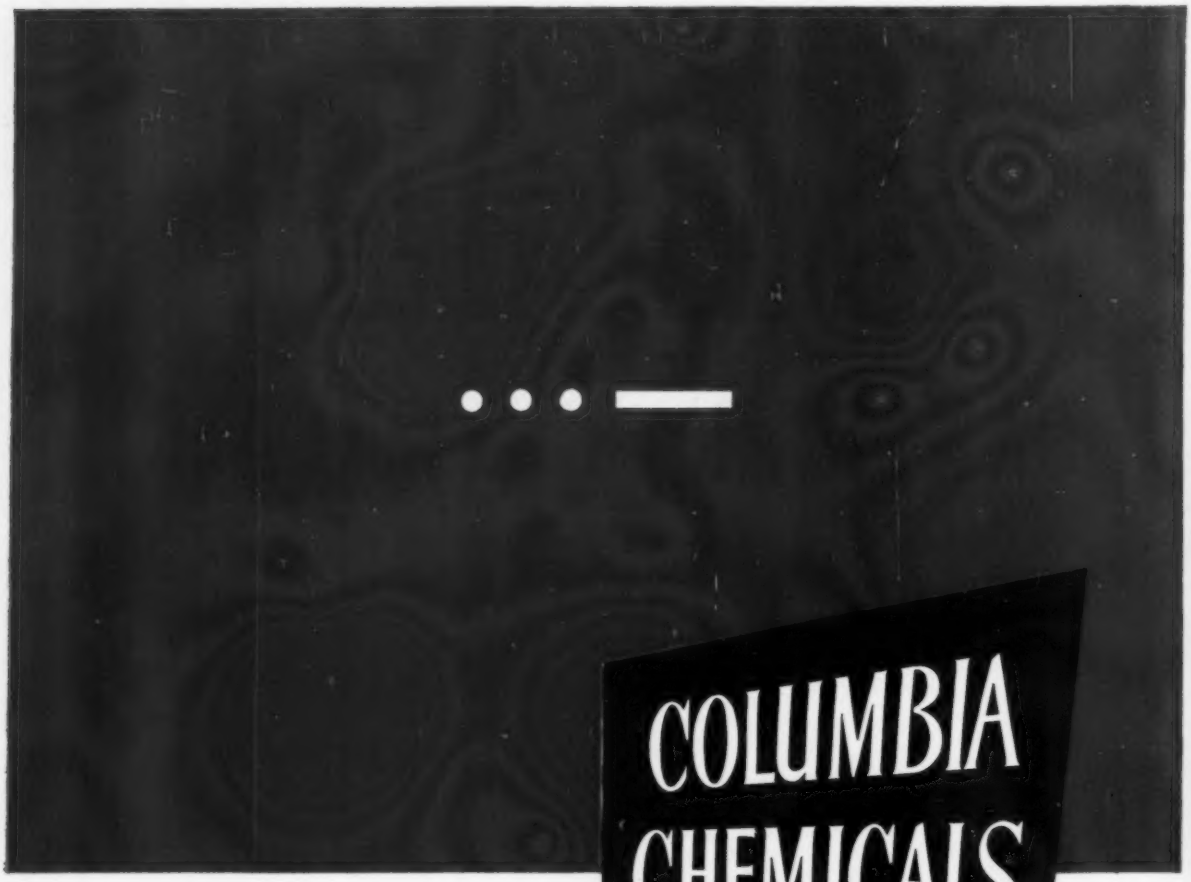
FOR VICTORY ★ BUY U. S. WAR BONDS AND STAMPS



For victory!

Victory—complete victory, at the earliest possible moment! Nothing short of that will satisfy American Industry.

That's why the tempo of industrial production has increased so rapidly. That's why new production records are so commonplace today they scarcely merit a moment's attention. That's why supplies and equipment for our armed forces are pouring out of our factories in a veritable deluge—a deluge which will inevitably overwhelm our enemies.

In this war production program, Columbia Chemicals are playing a vitally important role, helping to increase production, helping to make sure that finished products will provide the dependable performance so necessary in all types of war equipment.

If the pressure of expanded wartime schedules has created a production problem in your plant, involving the use of chemicals such as those listed here, why not let us discuss it with you on the chance that we might be able to make a suggestion or two which will be of benefit.

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SODA BRIQUETTES · MODIFIED SODAS · CAUSTIC ASH · PHOSFLAKE · CALCENE** · CALCIUM HYPOCHLORITE

*Precipitated Calcium Silicate **Precipitated Calcium Carbonate

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FORTY FIVE YEARS a Leader

For more than forty-five years the name of Chuit, Naef has been synonymous with the production of the highest quality group of synthetic and aromatic chemicals obtainable. Today, as then, this reputation continues unmatched. ✓ ✓ Throughout these years the Chuit, Naef organization has expanded its products to the point where they now rank as the most complete line of perfume raw materials available to the toilet goods, perfume extract and soap fields. ✓ ✓ As sole United States agents, let us convince you of the remarkable adaptability of our products to your line — *and our ability to deliver!*

Firmenich + Co.

135 FIFTH AVENUE, NEW YORK, N. Y.
CHICAGO OFFICE: 612 N. MICHIGAN AVENUE

FIRMENICH

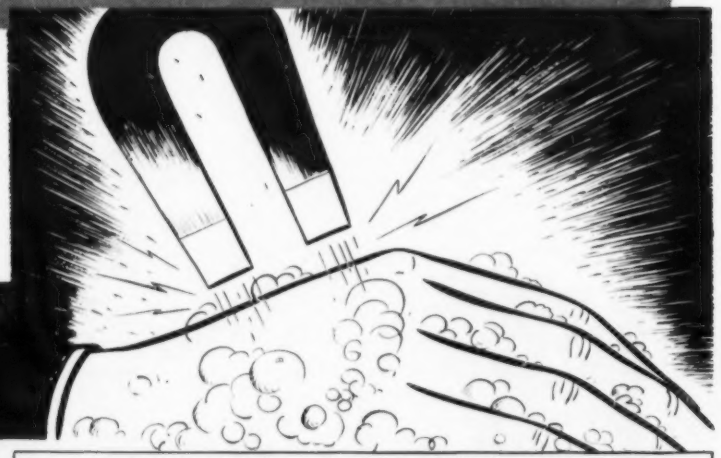
....AND THERE'S QUITE A DIFFERENCE

in Soap Perfuming, too!

The creating of soap perfumes at best, is a specialist's job. It requires a happy combination of soap technician and master perfumer, plus long experience. These days, with fewer materials to choose from, the job is doubly difficult. So depend on a competent perfumer whose experience in the soap field is broad, to solve your problems in soap scenting. Our perfumers are rich in such specialized experience.

VAN AMERINGEN-HAEBLER, INC. * 315 FOURTH AVE., NEW YORK

SOME POWDERED HAND SOAPS CLEAN LIKE THIS -- OR THIS -- HY-O-LAN CLEANS LIKE THIS



HY-O-LAN DRAWS OUT THE DIRT LIKE A MAGNET

HY-O-LAN doesn't "plane" the skin or "drill" the pores —it LIFTS the dirt—FAST but gentle.

The new type SAFER powdered hand soap that lifts dirt out of pores without rubbing

Here is a powdered soap that doesn't slice off the skin or drill into the pores to get the dirt out. It doesn't leave the worker's hands raw, a prey to easy infection . . . HY-O-LAN simply drops into the pore bottoms, lifts out the dirt, and carries off the surface grime along with it—without clogging the drains.

SKILLED HANDS ...how his employers pamper them! Old style abrasive soaps are out—soothing HY-O-LAN is in.

KISSABLE HANDS The gals want soft, kissable hands "after hours"—they get 'em by washing up with soothing HY-O-LAN.

A FASTER WORKING POWDERED HAND SOAP, FOR THE WAR WORKERS OF AMERICA

NOT A SCRATCH IN A BARRELFUL

CONTAINS SOOTHING LANOLIN—JUST LIKE COSTLY FACE CREAMS

HY-O-LAN

SOLD ONLY THROUGH JOBBERS

HYSAN PRODUCTS CO. • 58 E. CULLERTON ST. • CHICAGO

Norda

Scarcity of floral oils . . .

Present dwindling supplies of natural floral essences emphasize the value of high quality substitutes.

Synthetic floral essences can be used to replace the natural oils with full satisfaction and marked success in numerous products, — toilet soaps, shampoos, shaving creams, powders, creams, and many others.

In fact, in many products the newer synthetic floral essences are to be *preferred* for the manner in which they reproduce the true fragrance of the living flowers in the finished product,—not to mention uniformity of quality and odor fidelity, and their economy under preset conditions.

Let us tell you more about these newer substitutes as an answer to the growing scarcity of natural floral oils.

NORDA Essential Oil and Chemical Co., Inc.

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Los Angeles Office
2800 E. 11th Street

St. Paul Office
253 E. 4th St.

Toronto Office
119 Adelaide St., W.

New York Office
601 West 26th St.

Montreal Office
135 Commissioners St., W.

Wyandotte

Announcing the consolidation of

MICHIGAN ALKALI COMPANY

THE J. B. FORD COMPANY

into

WYANDOTTE CHEMICALS CORPORATION

Back in the 1890's, two companies were established in Wyandotte, Michigan, by Captain John B. Ford, father of the plate glass industry in America, and an outstanding pioneer in the chemical industry.

The Michigan Alkali Company grew to be one of the great basic chemical companies of the world, manufacturing a wide range of products serving more than fifty different industries.

The J. B. Ford Company developed into the world's largest manufacturer of specialized cleaning materials, and an important factor in promoting sanitation and safeguarding the health of America.

The company controls warehouse facilities strategically located at approximately 200 points throughout the country.

Consolidation a Logical Step

On January 1, 1943, these companies were consolidated, still under the same family ownership, to form the Wyandotte Chemicals Corporation.

This consolidation is a logical recognition of the close relationship which has existed between the companies for many years.

Management and personnel will remain the same, but the consolidation will offer an opportunity for even greater service to our customers.

Many Benefits to Customers

Wyandotte Chemicals Corporation will continue to have one of the best distribution systems in the United States—making all Wyandotte products more readily available, to smaller as well as larger consumers.

Combining the technical staffs of the two companies will now make it possible to bring a wider range of expert technical service to Michigan Alkali and The J. B. Ford customers everywhere.

The enlarged research laboratories may be counted upon to develop important new products to meet the needs of war and post-war conditions.

And by the complete integration of the ownership of raw material sources and control of manufacturing and distribution *in the one company*, Wyandotte Chemicals Corporation will be able still further to enhance the *quality* and *value* for which Wyandotte products have long been noted.

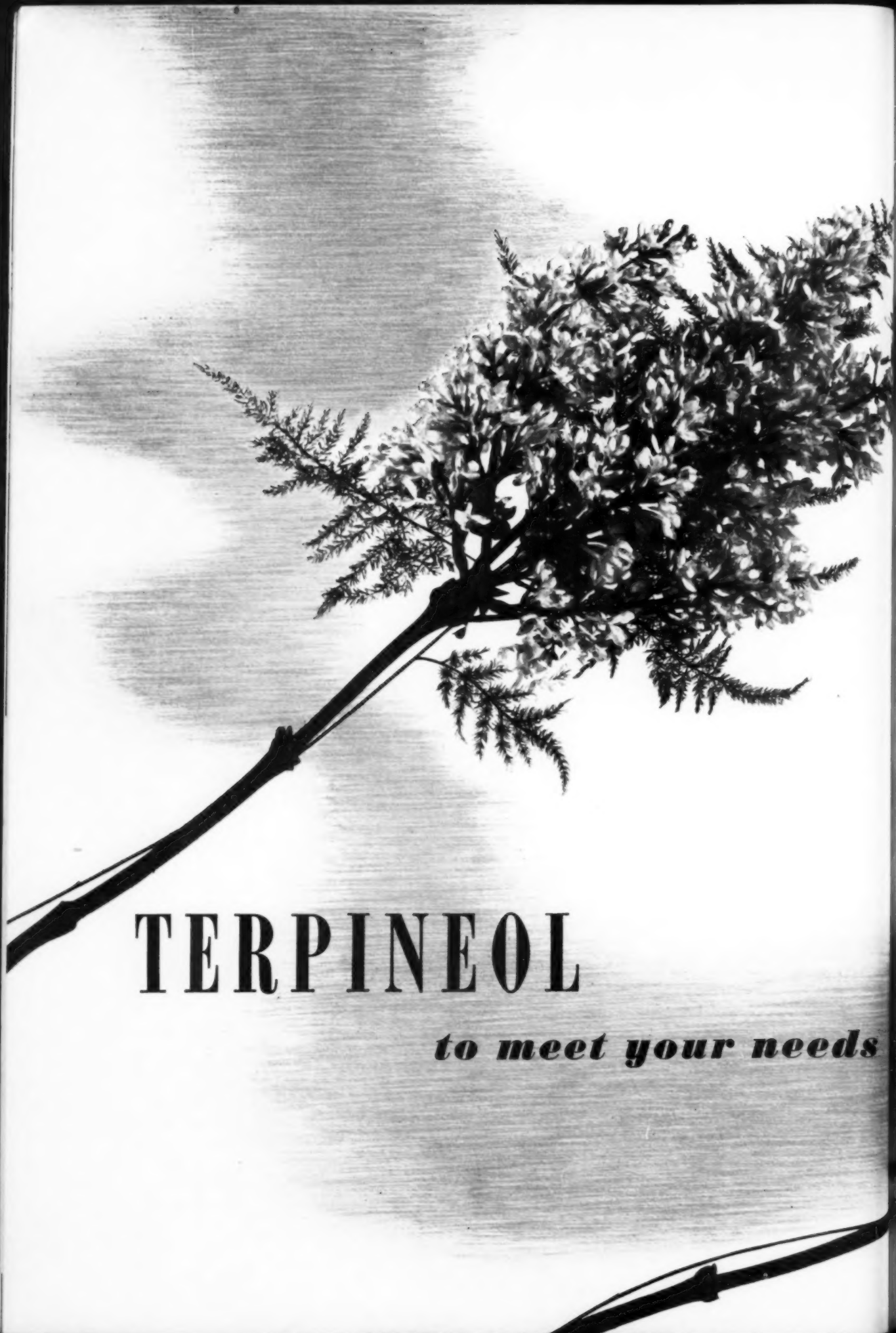
Contracts and commitments of Michigan Alkali Company and The J. B. Ford Company in force at the end of the year 1942 will be carried out without interruption by the Wyandotte Chemicals Corporation, and customer contacts will be maintained without interruption by the Michigan Alkali Division and the J. B. Ford Division of the consolidated sales departments.

It is our sincere intention to continue to develop and manufacture to the best of our ability products which help the nation in wartime and which will contribute to a fuller life when peace is won.

WYANDOTTE CHEMICALS CORPORATION

Michigan Alkali and J. B. Ford Divisions

Wyandotte, Michigan


TERPINEOL
to meet your needs

PAST PERFORMANCE—AN INDEX FOR THE FUTURE

For more than sixteen years Givaudan has been producing a Terpineol that for quality and uniformity has been recognized as outstanding by users throughout the cosmetic industry.

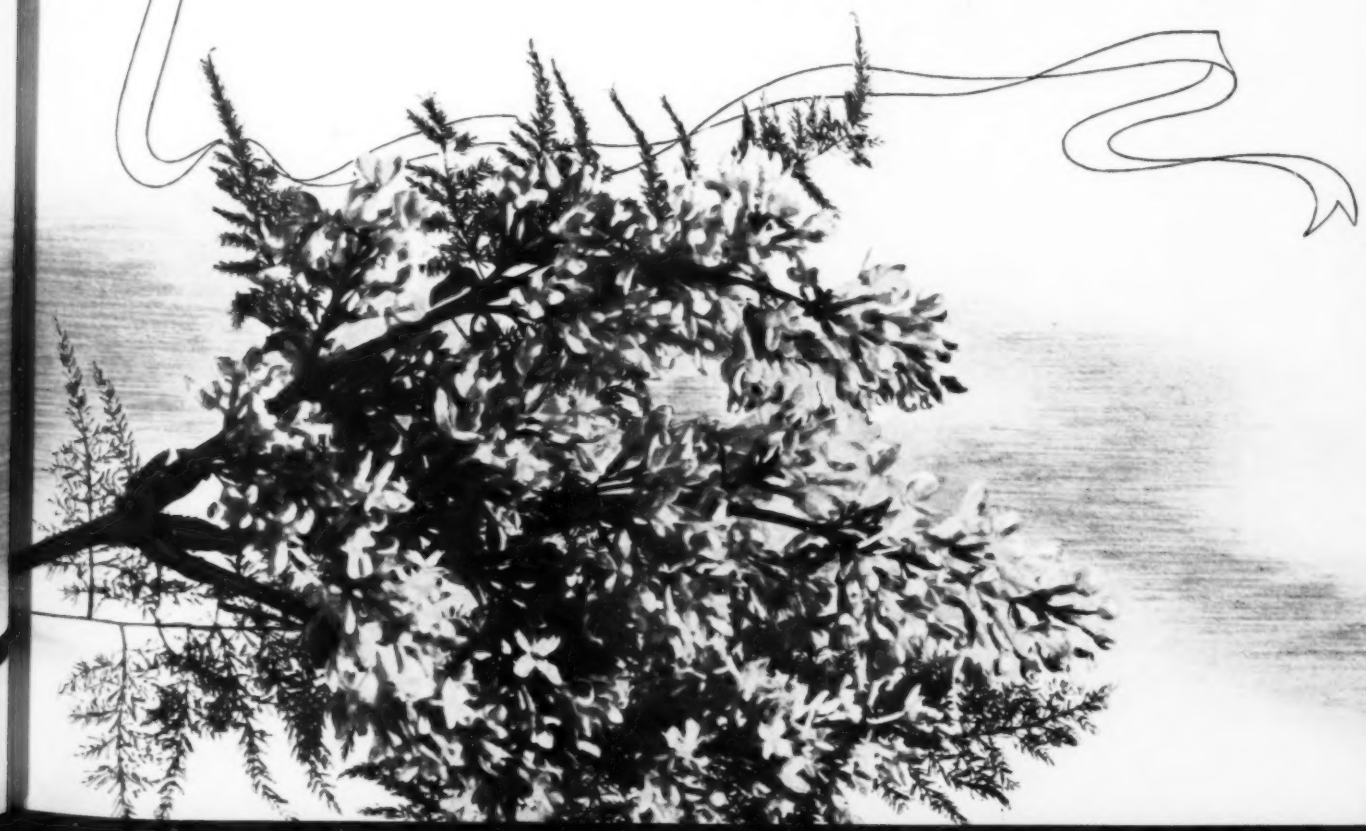
This quality and uniformity was still further improved in 1937 by a new method of fractionation by distillation in vacuum, using specially designed apparatus.

The years of experience gained in research and production of Terpineol are proving of great value to Givaudan customers today, for they are assured of a completely dependable source of supply and expert counsel in regard to its use. Here is a typical example of how Givaudan foresightedness is helping to maintain the flow of materials during wartime. If you need high quality Terpineol, order from Givaudan now—your needs can be met promptly.

GIVAUDAN-DELAWANNA, INC.

330 WEST 42ND STREET, NEW YORK, N. Y.

OUR PLANT FACILITIES ARE AVAILABLE FOR ANY FURTHER CONTRIBUTION WE MAY MAKE TO PRODUCTION OF MATERIALS FOR THE WAR EFFORT



RESEARCH has proved two things — (1) Malmstrom's Nimco Brand Lanolin is better for 5 big reasons—A-N-D (2) Malmstrom's Nimco Brand Lanolin is America's No. 1 choice . . . *the largest selling Lanolin in the U.S.A.*

Today, when quality standards are harder to maintain, Malmstrom has a greater responsibility than ever before . . . for today Malmstrom has *more* customers to satisfy *than ever before.*

To this endeavor, we pledge our efforts, our experience and our resources so that American Industry can benefit from Malmstrom improvements in the quality and value of Nimco Brand Lanolin and allied products.

America's No. 1 Choice Because It's 5 WAYS BETTER

MALMSTROM NIMCO BRAND LANOLIN

1. LOWEST *ODOR* VOLUME
2. GREATER *UNIFORMITY*
3. BETTER *COLOR* QUALITY
4. SMOOTHER *TEXTURE*
5. FINER *BODY* CONSISTENCY

N. I. MALMSTROM & CO.

America's Largest Suppliers of

LANOLIN • Anhydrous U.S.P. • Hydrous U.S.P. • Absorption Base • Technical
DEGRAS • Neutral and Common • **WOOL GREASES**

147 LOMBARDY STREET • BROOKLYN, NEW YORK

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Citronella
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Eucalyptus
Lavender Spike
Lemongrass
Petitgrain
Pine Needles
Rose
Rosemary
Safrol
Sage Spanish
Sandalwood
Sassafras
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•

PERFUME BASES
for

Soaps
Shampoos
Liquid Soaps
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Theatre Sprays
Floor Wax
Polishes
Disinfectants
Insecticide Sprays
Toilet Preparations

•

AROMATIC CHEMICALS

SPIKE LAVENDER
ROSEMARY

Of special interest at this time are our spot stocks of Spanish Rosemary and Spike Lavender. We are direct importers and are in position to offer oils of pleasing quality. May we submit samples of these oils as well as any others in which you are interested?

We are now able to offer fine quality Imitation Oil of Cassia in large quantities and welcome your inquiries. Please write for sample.

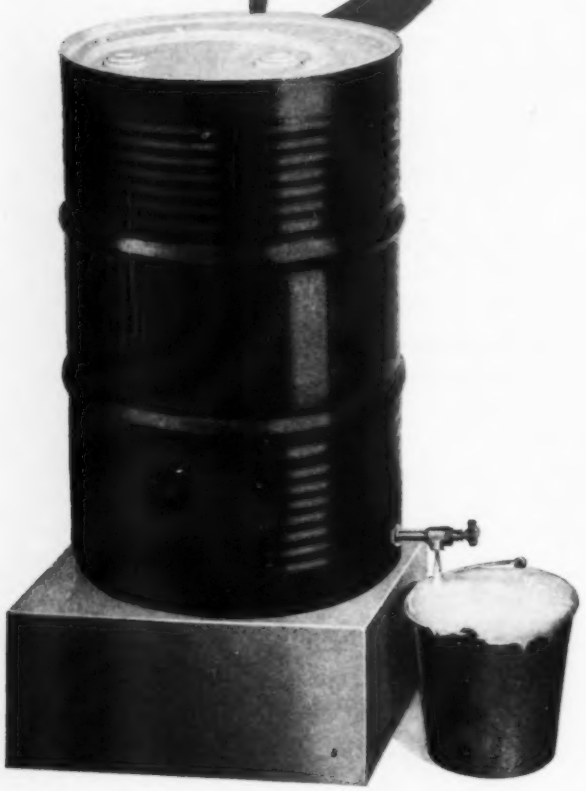
In addition to offering a complete line of essential oils and aromatic chemicals we are headquarters for all types of perfume bases. Some of the products being perfumed by our laboratories are listed at the left. What perfuming problem do you have on which we may be of assistance?

STANDARD SYNTHETICS, INC.

119 WEST 25TH ST., NEW YORK, N. Y.

Chicago • San Francisco • Kansas City, Mo.

How to *Conserve* SOAP...



Can you imagine a Soap Company running an advertisement like this in times of peace? No, you probably cannot. But . . . we're at war and soap *must* be conserved.

The Buckeye Soap Conserving System shown here is easily installed and there is no chance for undissolved soap to be smeared on the surface being washed. It produces a uniform concentrated soap solution. (There is actually an entire tank car of washing solution concentrated in a drum of soap.)

FURNISHED WITH

Buckeye Vegetable Oil Soap	65%
Buckeye Pearl Hard	65%
Buckeye Concentrated Oil	65%
Buckeye Scrubace	65%
Buckeye Extra Hard Green	80%
Davies Extra Hard Green	75%

DIRECTIONS FOR USE: *1 gallon of concentrated soap solution will make up 40 gallons of washing solution of the correct consistency. (Where water is extremely hard, more soap solution must be added.) For particularly dirty surfaces, the washing solution can be regulated by increasing the soap solution as required.*

drums (approximately 480 lbs. each)
½ drums (approximately 250 lbs. each)
¼ drums (approximately 125 lbs. each)

OPERATION: If you want to use the drum immediately after installation, fill with water and draw out 2 or 3 times, pouring the solution drawn out back into the drum. This permits its use 10 minutes after installation. However, it is best to fill the drum with water and let it stand 3 or 4 hours before using to insure uniform mixture of soap solution.

THE DAVIES-YOUNG SOAP CO., DAYTON, OHIO

Javonella

Perfect for Perfuming

★ LAUNDRY SOAPS ★ WASHING POWDERS ★ LIQUID CLEANSERS ★ POLISHES, ETC.

EVEN when oil of citronella was low in price and easy to obtain, JAVONELLA was a reliable favorite. A great many manufacturers preferred its finer, cleaner odor, its uniform quality and consistent economy. And now that Citronella is so high in price and difficult to get, JAVONELLA is more important to you than ever before.

WRITE FOR SAMPLES AND QUOTATIONS

FELTON CHEMICAL COMPANY
599 Johnson Ave., B'klyn, N. Y.
BRANCHES IN PRINCIPAL CITIES

Manufacturers of AROMATIC CHEMICALS, NATURAL DERIVATIVES, PERFUME AND FLAVOR OILS

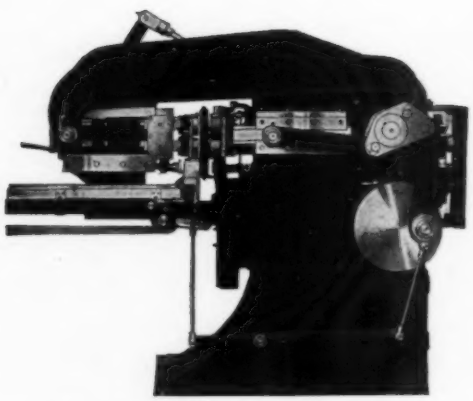
JONES

TOGGLE OPERATED

PRESSES

Save hundreds of dollars more per year than earlier models!

THEIR long toggle pressure makes the soap cohere so that particles do not stick to the dies. This makes long runs possible without stops for cleaning. Such stops on old model presses put the whole line out of production for more minutes per day than you realize without adding them up.



Type K Toggle Operated Toilet Soap Press

Again, dies which accumulate scrap, press only a few before the soap cakes begin to lose their finish and clean impression. If the dies are run too long before cleaning, many cakes will have to be remilled and pressed again. This costs money, but it costs more in loss of sales to neglect it.

Toggle Operated Presses insure higher production, prevent early depreciation, multiply by three the life of dies and conserve the nerves of workers by their noiseless, efficient operation.

The best-looking soaps on the market today are being produced by the use of modern

JONES TOGGLE PRESSES

R. A. JONES & COMPANY, Inc.

P. O. BOX 485 CINCINNATI, OHIO

AS THE EDITOR SEES IT

THOSE who are in the best position to know look for a sharp drop in the amount of soap available for domestic consumption during the current year. The prospect is that approximately 300,000,000 pounds less of fats and oils will be available for soap manufacture for domestic purposes, and that this will result in a reduction of half a billion to six hundred million pounds of soap in the quantity of soap available to domestic civilian users. In the light of these figures, the threat of possible soap rationing before the year ends is not an idle thought. Fortunately for the industry, the effect will not be as great on the soap manufacturer as on the consumer, for additional quantities of quota exempt fats and oils will be available to the soap industry to assure an uninterrupted supply of soap for all war needs and for lease-lend. The net effect is expected to hold total soap output for 1943 at a level only slightly below the heavy 1942 production,—98 per cent of 1942 is the estimate.

With edible fats banned for use in soap manufacture so that a larger tonnage may be available for Lend-Lease, the choice of soap fats becomes correspondingly narrow. Outside of foots and fatty acids, the only vegetable oil remaining for use by soapers is linseed. The merits of this oil as a soap raw material are not considered too highly except when hydrogenated. And hydrogenation facilities are already taxed to the limit by edible fat production. But it is pointed out, the proportion of linseed oil to be set aside for soap will be small, not over 60,000,000 pounds or some four per cent of the total available soap fats. It appears that if any stretching of oils and fats for soap is to be done in order to produce a larger tonnage of soap products, greater demand will fall upon rosin, silicates and fillers to accomplish this purpose.

The glycerine outlook is even more clouded than the soap picture. Added to the expected slight decline in soap output is the fact that we are now using in the soap kettle more and more oils which give a markedly reduced glycerine yield. Having replaced coconut and palm kernel oils to a large extent with oils of smaller glycerine yield, the outlook is for a drop from the 196,000,000 pounds of glycerine produced last year, to an estimated 165,000,000 pounds for 1943. Consumption in 1942 was ten million pounds above actual production, but plans for 1943 call for a further sharp cut in civilian use to bring the consumption figure in line with reduced current output. Less glycerine will be available for cosmetics, confections, tobacco, certain resins and special papers in order to provide ample supplies for war needs, Lend-Lease and essential drugs.

This fat and oil plan for 1943 soap and glycerine manufacture has been set up in Washington by experts with long experience in the field and who know what it is all about. But it cuts the corners extremely close, allowing little for error. A major crop failure might be disastrous. And the threat of insufficient glycerine even for our most vital war needs is always present in such a close-hauled production schedule. However, if rigidly carried out, it should mean no further restriction of soap fats below the present 84 per cent level, and no material shortage of soap for consumers this year,—soap stocks in all distributing channels are believed to be fairly large.

IN acting on appeals for higher prices, the policy of OPA has changed considerably from that of a few months back. In determining new ceiling prices or investigating with this object in view, OPA emphasis is no longer on March, 1942, ceiling figures. Today, OPA is more interested in how much a manufacturer or distributor is making than in prices of last March. What are your profits? That is the question which must stand a rather rigid investigation at present before any relief may be obtained on account of higher costs. And if profits are believed by OPA to warrant, manufacturers will be and are being forced to absorb the additional costs. This is in cases where appeals for price relief are made by individual firms, but where a cost problem is industry-wide and serious to the point of jeopardizing a whole industry, OPA is then considering relief on an industry basis. To manufacturers who are considering appeals for higher ceiling prices, this newer attitude of OPA is quite important.

THREATS to abolish the manufacture of liquid soaps for the duration will probably not be carried out in spite of ominous rumblings from Washington. Those to whom the Government has entrusted the war-time regulation of soap and glycerine manufacture,—formerly part of the WPB but lately transferred to the Food Distribution Administration of the Department of Agriculture,—know as well, if not better than anybody that to wipe out liquid soap manufacture would be of no material consequence in conserving fats, glycerine, or transportation facilities in the over-all soap industry set-up. The war effort would not be aided one iota. In fact, any such action might endanger a host of essential chemical specialties now being produced by the potash soap industry for the Army, Navy, and other Government departments, as well as for plants working on war contracts.

To those numerous small manufacturers of liquid soaps who had visions of being put out of business overnight, we feel that it is safe to say that these soaps will continue to be made. Some restrictions may be placed upon their manufacture and upon their shipment. To satisfy those in Government circles whose duty it is to demand ever greater conservation of goods and transportation facilities, too often without knowing the facts and with too little of common sense in their demands, — some sacrifices may have to be made. But it does not look now that liquid soap production will become a burnt offering at the altar of the angry conservation gods, — for nobody knows better than F.D.A. officials that this would be strictly a gesture and not a move honestly calculated to aid the war effort.

BOOTLEG soap! Who would have thought that we would ever come to this? But the FDA Soap and Glycerine Section (nee WPB) is quite conscious that with increased oil and fat restrictions, there is a possibility of attempts to bootleg soap and circumvent quota regulations. Accordingly, soapers must be very cautious about proposals to manufacture soap for other persons or firms from oils or fats owned and delivered to them by those persons or firms. If, however, the owner of the oil or fat who desires to have it made into soap was himself a manufacturer of soap previously, and established a fat and oil quota, the soap can then be made up for him to the extent of his quota. This, of course, will prevent private brand soap buyers supplying the necessary fats where they might be limited in soap purchases by the fat quota of the supplying soap manufacturer, — or where the soap manufacturer by choice prefers to use his full fat quota on his own brands to the detriment of his private brand customers. And thus, we see, bootleg soap is already anticipated and laid a stymie.

CIVILIAN SOAP OUTPUT FACES 15% CUT IN 1943

A SUBSTANTIAL reduction in the quantity of oils and fats which will be available for soap manufacture over the coming year, and a consequent reduction in the supply of finished soaps were presented to the industry as very definite prospects at a meeting held in the Hotel Mayflower, Washington, Jan. 21, attended by over one hundred representatives of the industry. Held at the call of the Association of American Soap and Glycerine Producers, this industry meeting offered an opportunity for soap makers to hear a series of reports from those in charge of the soap units of OPA and FDA,—and to hear at first hand what new problems face the industry over the coming year.

In the absence of R. R. Deupree, president of the Soap Association, E. H. Little of Colgate-Palmolive-Peet Co., vice-president, and now newly elected president of the association, presided. The first speaker was E. W. Wilson, head of the Soap and Glycerine Division of the Fats and Oils Branch, Food Distribution Administration of the U. S. Department of Agriculture. Mr. Wilson explained the recent orders controlling consumption of oils and fats and gave some of the background to indicate the necessity for such restrictive measures. We face a definite fat deficiency, he warned, in spite of huge domestic production. The deficiency is caused, he explained, by the necessity of feeding our allies, such of the conquered nations as we may set free, and the desire to accumulate a back log of edible fats and oils to carry us along for a year or so, after the war is ended, until the ravaged war areas can be put back into production.

As a corollary to the fat and oil picture, Mr. Wilson also outlined

E. H. Little, newly elected president of the Soap and Glycerine Association, is a veteran of over 40 years in the soap field. He started as a salesman for Colgate Co. in North and South Carolina in 1902, becoming Memphis district manager in 1906. He joined Palmolive Co. in 1914, working up to complete charge of the company's foreign business in 1926. In 1933 he was elected a vice-president of the merged Colgate-Palmolive-Peet Co., and five years later was elected president of C-P-P.

the glycerine situation, reporting that the necessity of restricting the soap industry's fat and oil supply over the months to come will inevitably cut glycerine production well below the record levels of 1942. Thus more stringent controls will be necessary, he warned, both on the amount of glycerine that must be recovered by producers, and the amounts that may be employed for any end use not directly connected with winning the war. Revisions in M-193 are even now under consideration, he reported, which will further reduce the allowable residual content of glycerine in soaps. The allowable maximum in hard soaps will probably be cut to 8/10 of one per cent, he indicated, with the maximum in potash soaps reduced to 1%. (The latter figure should not have any particular effect on potash soap manufacturers, incidentally, as none of the raw materials now available figure to give any higher glycerine content to the finished soap.—Ed. Note.)

Mr. Wilson advised the industry that very shortly soap makers will be receiving a comprehensive questionnaire which they are requested to fill out as completely and accurately as possible, as it has been planned to give the government much information necessary to successful formulation of its plans to eliminate cross-hauling, minimize manpower shortages, transportation bottlenecks, etc. Replies to the questionnaire are expected to provide the key to eliminating cross-hauling of both raw materials and crude glycerine. He advised the industry also that some time in the near future they may expect calls from compliance representatives of the various government units to check on inadvertent as well as willful violation of the new control measures.

In reply to a question as to the status of coconut oil, Mr. Wilson pointed out that coconut oil had not been included among the edible oils which can now no longer be split, because its high glycerine content made it advisable to reserve it for other than edible purposes. Linseed oil, he reminded, which might also under certain conditions be classified as an edible oil, is another oil free from the prohibition against use in non-edible products. Plans of the Department of Agriculture for the coming year, incidentally, include the prospect of sending approximately sixty million pounds of linseed oil to the soap kettle to bolster deficient stocks of more commonly used soap raw materials.

Answering a question on use of fatty acids, he advised that the

soap maker should get a statement from his supplier indicating either that the foots were split before January 7th, or that if produced since that time, the fatty acids were made from foots. Tank bottoms, he warned in reply to another question, are not to be classed as foots. They are considered primary fats and are subject to the 84% restriction on quantities used.

He clarified another problem in reply to a specific question as to the responsibility of the soap manufacturer who is asked by another party to manufacture soap from oil which the other party supplies. This is permissible, said Mr. Wilson, only if the person requesting this service were an actual manufacturer during the base period, and has established an oil and fat consumption quota based on his operations during that period.

Another question clarified was the procedure in determining fitness of an oil or fat for edible purposes. Sample and analysis of the oil must be submitted to the FDA, together with a report indicating that samples have also been submitted to at least five users of edible oils, who must have turned down the product as unusable for edible purposes.

PATRICK MURPHY MALIN, in charge of the Chemicals and Drugs Price Branch of the Office of Price Administration, opened the section of the program dealing with soap pricing problems. He reminded that the reason for the establishment of OPA was an attempt to head off inflation wherever possible, and indicated how the various moves of his office in the soap field had been related to this main purpose. He recalled the soap price roll-back of last spring, following the issuance of the General Maximum Price Regulation, and the hardship it worked on the soap industry. He reminded that the OPA had moved promptly to relieve this hardship by getting a reduction in tallow prices for the soap industry which compensated at least partially for the lower soap price levels.

He reviewed the influence of the OPA in securing the adoption of soap standards, and reminded that the reason for this prohibition against changes in quality or size of soaps was to protect the majority of the trade against possible use of such devices by individual firms in the industry in an attempt to raise prices by subterfuge. He recounted the prompt steps taken by OPA to relieve cases of undue hardship in the industry, due to imposition of price control, and also explained the background on the recent reduction in the price of glycerine on sales to the government, negotiated by OPA.

Looking to the future, he anticipated the possibility that soaps may eventually have to be extended by increased use of fillers. He observed that if such a trend develops, the industry will be expected to reduce prices as detergent efficiency drops. Soap makers' costs may advance over the current year, he recognized, but since past price margins have in most cases been satisfactory, the industry will be expected to absorb such increased costs.

A number of specific problems on the pricing of soaps were dealt with by Gus D. Goldberg, who has general supervision over the Protective Coating Section of the Chemicals and Drugs Price Branch of OPA, under which the Soap Section operates. The questions and Mr. Goldberg's answers follow:

Q. Is it correct that Commodity Practices Regulation No. 1, which prohibits changes in weight or quality of soap, applies only to bar and package soaps and cleansers and does not apply to

(a) Liquid and paste soaps of any kind
(b) Liquid shampoos
(c) Shaving creams of any kind?

A. That is correct. CPR No. 1 applies only to bar and package soaps and cleansers.

Q. Does CPR No. 1 apply to shaving sticks or cakes?

A. No.

Q. While a manufacturer can determine whether or not the weight or anhydrous content of his soap has been changed, it is not so easy to determine whether or not the "serviceability per unit weight" has been changed. Will you tell us in a general way what OPA regards as his responsibility and what tests he should apply?

A. Our No. 1 criterion is "anhydrous soap content." For the No. 2 criterion the manufacturer should apply his own detergency tests. If they indicate unchanged or superior efficiency of the new product as a detergent, compliance with CPR No. 1 would be assured.

Q. Does CPR No. 1 restrict the substitution of one raw material for another, or a fatty acid for a whole fat or oil, when the weight and quality of the soap remain the same?

A. No.

Q. If a manufacturer believes that a change of ingredients does not affect the serviceability of his product, but OPA disagrees with him, what happens?

A. If anhydrous soap content is maintained or increased, it should be possible to reach agreement between OPA and the soap maker on the basis of a detergency test.

Q. Is elimination of glycerine under WPB order of itself a change of quality that requires OPA approval?

A. No.

Q. Does CPR No. 1 apply to industrial soaps which are made for other than household use?

A. No, it applies only to bar and package soaps and cleansers for household use.

Q. Suppose the same soap was offered to the household consumer and to power laundries, would CPR No. 1 apply to the soap sold for household use and not for use in the power laundries, so that if the maker wanted to change the formula, he would have to get OPA approval only on the change that involved soap for household use?

A. CPR No. 1 would not apply to soap sold to power laundries. No OPA approval would be required on such sales.

Q. How should a manufacturer proceed in connection with the pricing of new soap products which are

(a) Subject to CPR No. 1
(b) Exempt from CPR No. 1

A. (a) He should apply for OPA permission to issue a new soap.

(b) The soap should be priced on the basis of the section of G.M.P.R. dealing with the pricing of "similar

commodities." If this is impossible, petition under Section 3(b) of the G.M.P.R.

Q. Where a manufacturer in substituting one raw material for another is doing so in compliance with WPB orders, what obligation is there on his part to obtain OPA approval of such substitution?

A. There is no obligation so long as the same anhydrous soap content is maintained.

Q. What must the soap manufacturer do to have his prices adjusted upwards where WPB orders require him to substitute more expensive raw materials than have been used?

A. The soap maker is expected to absorb the higher cost, unless the hardship is of serious proportions and is industry-wide.

Q. What rules should be followed in pricing products where WPB orders make it necessary to change the type of container in which they are packed—

(a) to a more expensive container?

(b) to a cheaper container?

A. (a) The packager is expected to absorb the higher cost.

(b) The manufacturer benefits. No price reduction is necessary.

Q. Since soap was not being sold for synthetic rubber manufacture in March of last year, how is the ceiling price for such soap determined?

A. Such soap is exempt from price control, but a copy of the contract must be filed with OPA, in accordance with Amendment to Supplementary Regulation No. 1 of the G.M.P.R.

Q. To what extent may a soap manufacturer who is caught between rising labor and raw material costs on the one hand, and an inflexible ceiling on the selling price of his products on the other, obtain relief?

A. The OPA stopped its efforts to give relief to individual manufacturers on December 1. Relief is now given only where the conditions complained of are industry-wide in their effect.

Q. When is it necessary to get OPA approval in pricing soaps?

A. If the commodity falls within CPR No. 1, there is no need for pricing that soap because new soaps are regulated under that order. If it is necessary to get OPA approval on soap which does not fall under CPR No. 1, that pricing will be given by OPA under Section 3(b), when the manufacturer has exhausted the means of determining his selling price by the other provisions of the General Maximum Price Regulation.

Q. Is a wholesale druggist who buys C.P. glycerine in bulk (500 pounds or more) and repackages it in glass or tin containers, a "converter" within the meaning of Amendment No. 4 to Revised Price Schedule No. 38, so that the maximum prices set forth in that amendment apply to his sales of glycerine to retail druggists?

A. As now written, the druggist would be classed as a converter, but a change in the wording of this section may shortly eliminate this.

Q. Describe the new fixed mark-up pricing system for retail and wholesale sales of soaps and other products.

A. Fixed dollars and cents prices are being developed for a series of leading sellers. Levels will vary for sales in different type retail outlets.

Q. Formerly we made a transparent glycerine soap, but have had to discontinue using glycerine in our formula. The new cake is called "transparent soap" whereas we called the old cake "transparent glycerine soap." Both are sold under our brand label, but we make it clear to the customer that the new bar does not contain glycerine. The weight and anhydrous content of both bars are the same. We believe the serviceability of the new bar is equal in every way to that of the old, even though the new bar does not contain glycerine. Must we have specific OPA approval, first to sell the new bar, and secondly, to price the new bar at the same level as the old bar? Does OPA agree with our view that glycerine used in making transparent soap served only to bring about transparency and did not add to the serviceability of the product?

A. No approval is needed to sell the new bar. Approval is needed to price at same level. OPA agrees that the glycerine content added nothing to detergent efficiency which is its prime consideration.

Left, Russell Young of Davies-Young Soap Co., Dayton, O., and right, Herbert Kranich of Kranich Soap Co., Brooklyn, chairman and vice-chairman, respectively, of the newly formed Potash Soap Section of the Association of American Soap and Glycerine Manufacturers.

AT A special session held the morning of January 21, the new Potash Soap Section of the association was organized and officers elected. Russell Young of Davies-Young Soap Co., Dayton, Ohio, was elected chairman of the section and Herbert Kranich, Kranich Soap Co., Brooklyn, was named vice-chairman. Andrew Federline of the Soap Association will act as secretary of the Potash Soap Section. Members of the executive committee are Thomas Galvin of

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LINSEED OIL...

a possible replacement in the soap kettle

FOR the past several months soap makers have been anticipating issuance of the order which came out early last month—banning use in the soap kettle, or for any other inedible product, of a long list of edible oils. They have been anticipating this new order with increasing misgivings, particularly so since they have counted heavily on such oils as soya bean, corn and peanut over the past year to take the place in the soap kettle of the lost supplies of coconut, palm and palm kernel. With these oils now on the prohibited list, a few soap makers have turned to consideration of linseed oil as a possible substitute soap oil, whose particular merit at the moment is certainly not its suitability for soap purposes, but rather its comparative position as to availability.

Nor should too much confidence be placed in the availability of any very substantial quantities of linseed for soap use. True, stocks are currently at a rather high figure as compared with the record for previous years,—291,212,000 lbs. on November 30, 1942, as compared with 198,486,000 lbs. at the beginning of the year and 153,804,000 lbs. on January 1, 1941. True, production of flaxseed has reached record levels in recent years. Total production for the first eleven months of 1942 was 886,678,000 lbs., or at the rate of almost a billion pounds for the full year. This is a further increase from the tremendous 1941 output of 868,116,000 lbs., and compares with production ranging from 440,000,000 to 665,000,000 lbs. in the more normal period from 1937 to 1940.

On the other side of the picture, however, we must keep in mind that consumption has also mounted sharply in the past few years. As compared with 1940 consumption of 386,000 lbs., the 1941 total was 539,362,000 lbs. and for the first nine months of 1942 consumption totaled 443,000,000 lbs., or at the rate of 590,000,000 lbs. for the full year. Besides the increase in domestic consumption, substantial quantities of linseed have also been exported.

The fact that the manufacture of linoleum and oilcloth, important industrial users of linseed oil, have now been curtailed, may of course ease domestic demand over coming months, but the one prime factor in the linseed market over the past year or two is that we have been cut off almost completely from Argentine imports. Up until two years ago we counted every year on shipments from the Argentine to supplement our domestic crop, and only in the past two years have we come anywhere near being able to match domestic needs with domestic production.

For the record it might be well to review the soap industry's comparatively small use of linseed oil over recent years. The oil has been used almost exclusively as an ingredient of soft soaps, with consumption by soap makers totaling only 2,278,000 lbs. for 1941 and only 3,024,000 lbs. for the first nine months of 1942. The bulk of linseed oil is normally taken, of course, by manufacturers of paints, linoleum and oilcloth. In 1941, for instance, paint manufacturers took 373,745,000 lbs. and linoleum and oilcloth manufacturers, 110,236,000, taking between the two groups approximately 90 per cent of the total of all linseed oil consumption.

Turning from the stock and production picture to the equally important question of the suitability of linseed oil for soap use, the outlook is even more depressing. Linseed oil is definitely not a good oil for the manufacture of hard soap, and has never been considered for such use in normal times. Every soap maker knows that raw linseed will at best produce a soap of objectionable odor and unsatisfactory consistency. If alkali-refined, neutralized and bleached at an additional cost of a cent or more a pound, the color and odor of the resulting soap will be improved, but it is a question whether the slight gain in quality of the finished soap would justify the expense. If hydrogenated, the characteristic fishy odor can of course be eliminated, but the resulting soap will lose lathering qualities almost completely. In any case, so we are told by those operating hydrogenation equipment, the chances are not too good that any of our existing hydrogenation facilities can be spared for the processing of linseed oil for soap use, as they are all in full-time operation on edible products. Government officials, on the other hand, seem optimistic as to the prospect of finding hydrogenation facilities for such use, and no doubt the necessary facilities can be released if sufficient pressure is exerted. It very probably will be, to judge from present indicated intentions to push at least 60,000,000 lbs. of linseed oil into the soap kettle over the course of the current year.

Incidentally, we have an idea that very shortly the soap industry may be glad to get stocks of even such a poor soap oil as linseed, as the recent revision of M-71 leaves little in the way of raw materials for soap use other than tallow, grease, foots, rosin and fatty acids. Linseed might go part way toward making up the deficiency, with some used raw in soaps where the odor would not be

For the first time in many years American flax production is in excess of domestic consumption. The Department of Agriculture is reported to favor use of at least 60,000,000 lbs. of linseed oil in soap manufacture this year. Photo above showing flax harvesting scene by Ewing-Galloway.

too much of a drawback, some used by soapers who have their own hydrogenation equipment and additional quantities hydrogenated by commercial suppliers under the stimulus of WPB pressure.

In the present market linseed is priced on a level comparable to soya bean oil, raw oil in tanks at New York selling late in January at around 13c. It saponifies fairly easily and gives a glycerine yield of 13 per cent on an 80 per cent glycerol basis. This is the same yield as soya and peanut oils give, and is slightly above the 12½ per cent yield of tallow. Constants of the oil are: Sap No. 189-196; iodine value, the highest of any oil used in the soap kettle, 170-204; titer, 19°-21°; non-saponifiable, 0.5-1.6 per cent.

The editors of *Soap & Sanitary Chemicals* have talked to a number of practical soap makers over recent weeks as well as to other close students of the oil and fat picture. Some of their comments on linseed oil as a possible replacement in the soap kettle, as reported in the following informal symposium, are of considerable interest.

C. R. KEMP of J. R. Watkins Co., Newark, N. J., comments as follows: "Linseed oil, as it is produced today, in my opinion, is a rather poor material to enter into the manufacture of soap, with the possible exception of something like automobile soap. The chief objections are the very high iodine number and of course its odor and the soft bodied product that is obtained when saponified.

"We know that we can bring down the iodine number by hydrogenation and at the same time impart a firmer body to the oil as well as the product of saponification. This also helps to clear up the odor. The only trouble about hydrogenation today, is that the hydrogenation plants are no doubt working day and night on edible products and could not handle a large volume of oil sufficient to supply the soap industry.

"About the only relief that the soap manufacturer could expect to obtain by the use of linseed oil, would be to use it as it comes in small quantities along with such other things as tallow, grease and coconut oil. Just what percentage would be desirable or even acceptable would have to be determined by experimentation. Just what this percentage would be I could not say because we have not conducted any research along this line. It would seem though that perhaps as much as 10 per cent of linseed oil could be worked into some of the soaps that are now manufactured containing high percentages of silicate of soda. Silicate of soda, as you know, is a very good preservative and no doubt would take care of a small percentage of linseed oil.

"We here at Newark do not make soaps of the nature just described and therefore probably would not benefit directly by this substitution, although indirectly it would have a tendency to release other fats that would be made available to us.

I doubt very much if linseed oil in its raw state can be used in toilet soaps with any marked success."

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A practical soap maker of long experience, F. E. Finlay, superintendent of John T. Stanley Co., New York, expressed much scepticism as to the possibility of making satisfactory use of linseed oil in soap as a suitable replacement for coconut and palm kernel oils, now no longer available, and for soya bean oil, corn oil, peanut oil and other such edible oils which the government has forbidden for use in the soap kettle. Linseed oil, he believes, has the same bad qualities as a toilet soap raw material which make fish oil objectionable. Short of hydrogenation, he reminds, there is no way to get rid of the characteristic fishy odor. He recalled the old jingle about the "fish duck" which might apply equally well to linseed oil,

"You can rub it,
You can scrub it,
You can wash it well.
But you can't get rid of that
fishy smell."

Hydrogenation, he allows, would eliminate the fishy odor as a problem, but it would leave the soap maker with a fat similar in character to hydrogenated whale oil,—which in the finished cake of soap "would give a smear rather than a lather." In Mr. Finlay's opinion hydrogenated oils are not to be compared with natural oils as toilet soap raw materials.

If resort must be had to linseed oil to supplement deficient soap oil stocks, the logical course, he believes, would be to restrict its use to floor scrubbing soaps, auto soaps, insecticide spray soaps, laundry soaps and other such soaps where the objectionable odor could be covered up by plentiful additions of rosin, pine oils, fillers, etc. Under no circumstances, said Mr. Finlay, would he willingly use linseed oil in toilet soaps. One experience, he related, in the use of linseed in a soap, of the higher price bracket, was the use of linseed fatty acids in a 50 per cent anhydrous potash soap shampoo base. The soap was made up on a small scale as an experiment, he recalls, and very little time elapsed between delivery*date and return. The beauty shop to which the soap was shipped reported that customers all commented on the unpleasant odor of the new soap.

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WHAT do flaxseed crushers think of the prospect of diverting linseed oil to the soap kettle? We gather that they are not overly enthusiastic, to say the least, as they recognize the very definite limitations of the oil as a soap raw material. J. D. Craig of Spencer Kellogg & Sons, Inc., Buffalo, comments as follows:

"If there is to be any appreciable use of linseed oil in the soap kettle in the manufacture of ordinary household soaps, the extent of that usage will in the end be dictated more by technical factors than by economic considerations. A highly unsaturated drying oil, it is, even after saponification, subject to rapid oxidation and color reversion. It contains approximately 25 per cent linolenic acid which even a partial hydrogenation does not completely convert.

"Aside from its high unsaturation, linseed oil has a relatively low titer, approximately 19-20°C. Accordingly, its resultant soap even when saponified with soda lye is quite soft. Although not as much of a paste as when potash lye is used, it is nevertheless too soft for incorporation into any type of cake or chip soap. When used in conjunction with high titer fats, it has a marked tendency to soften the cake and by reason of its high degree of unsaturation tends to oxidize quickly and cause objectionable odors and discoloration to the entire soap mass.

"By comparison with the average quality standards of present general household cake or chip soaps, one containing any appreciable percentage of linseed oil would be generally unacceptable. If raw material shortages become acute and regular soaps simply are unobtainable, then a soap with an appreciable linseed content might be accepted as preferable to none. A small amount of linseed oil in the formula really accomplishes nothing because its shortcomings more than offset the advantages of increased tonnage. In short, adding a small amount of linseed oil to the soap formula only tends to spoil an otherwise good cake of soap; a lot of it in the formula would of course intensify its objectionable properties and in addition produce a soap of generally unsatisfactory texture. Also the obnoxious odors of oxidized fatty acids, difficult to mask with essential oils, frequently will be absorbed and often retained by the fabric when laundered with such soap. After the fabrics have been subjected to the higher temperatures at which most ironing is done these odors become even more disagreeable.

"The potential use of linseed oil as an ingredient for household soaps should not be confused with its actual consumption in the manufacture of potash paste soaps. Even here it has marked deficiencies and under normal conditions faces stiff competition from other oils like soybean and corn oil. These latter two oils impart all the desirable qualities wanted in a potash soap without so many of the objectionable properties characteristic of the linseed soap, most of which are due to its high degree of unsaturation.

"With linseed oil currently selling at 13c tankcars delivered Zone Three points (New York and Philadelphia) and prime tallow being quoted around 8½-8¾c, there is quite a wide price spread between the two. Certainly it is a disadvantage to be overcome for an oil which by all standards of comparison is inferior for this specific usage. This price relationship, however, is quite normal. Linseed oil finds its major consumption in the so-called drying industries. Due to economic forces, the prices of the fat and oil raw materials of this industry have generally maintained a substantial premium over the prices of the major raw materials consumed by the soap industry. If and when flaxseed reaches parity, linseed oil may be subjected to a price ceiling but as yet there is no such limitation in effect and there will not be as long as flaxseed remains below parity. (December 15, 1942 current farm

price $2.36—parity $2.62). A floor price for next season's crop is now being indicated by the Department of Agriculture which would practically insure a minimum price for oil of about 13c Zone One points.

"While not subject to price ceiling limitations, consumption of linseed oil for most uses is restricted by WPB Order M-71 to 70 per cent of its average consumption during the corresponding quarters of 1940 and 1941. Because of this curtailment the stocks of oil are increasing. In spite of the present upward stock trend, however, stocks of linseed oil in the hands of individual crushers are not burdensome as evidenced by the fact that each time one of the Government agencies makes a purchase of a large tonnage for export it is necessary to accumulate the quantity over a period of weeks and to scatter the purchases with several different crushers. One of the reasons cited for the issuance of WPB Order M-71 was that the Government wanted a large stock pile of oil on hand in order that situations such as just outlined could be eliminated and so permit large tonnages to be loaded quickly for export at any given port without the inevitable delays. At this writing, rumors are current that there is to be a further curtailment in the consumption of linseed oil in order to accumulate even larger stock piles for Lend-Lease needs. The belief is prevalent that it must take the place of all other domestic oils for export under Lend-Lease.

"As a matter of academic interest, the United States has for the first time in many years produced almost enough flaxseed to take care of its needs. Last year's crop yielded approximately 37,000,000 bushels for crushing purposes. This quantity combined with Canadian and Mexican imports of approximately 4,000,000 bushels will in all probability constitute the total supplies for crushing for the ensuing year, as no seed whatsoever can now be imported from the Argentine. In addition, efforts are being made to expand even further this year's domestic crop and it is to be expected that Canada will take similar steps. The total flaxseed crushed during the last crop year approximated 53,000,000 bushels, an all time high for the domestic crushing industry.

"Neither from the point of view of scientific limitations nor economic considerations can linseed oil present a particularly favorable picture to the soap maker. From the standpoint of soap quality, it would be ruled out quickly. Its subscitution for any one of the regular ingredients commonly used in the formula of ordinary household soaps would produce results about comparable with what would be obtained if cottonseed oil should be substituted for linseed in the vehicle of a paint or in the manufacture of most varnishes.

"On economic grounds, the soap maker can hardly look with favor upon a substitute raw material of inferior quality when it commands a price premium of approximately 4½c per pound over his highest priced major raw material. With price ceilings in effect on many of the inedible fats and oils used in the soap kettle, and with linseed oil free to rise even further until flaxseed attains or even surpasses parity prices, it is wholly unlikely that economic reasons would become more favorable from the soap makers' point of view. The increasing stocks should not necessarily be looked upon as a reservoir upon which the soap industry can draw when the Government to all intents and purposes has a different objective in mind in bringing about such increases."

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SOME particularly interesting comments on the use of linseed oil in potash soaps are contributed by Herbert Kranich of Kranich Soap Co., Brooklyn, who has had considerable experience over a long period of years with the practical use of linseed oil as a soap making raw material. Mr. Kranich writes as follows:

"In the past, the majority of potash soap manufacturers have always used linseed oil as a basic raw material. Its use usually was a function of the relative price of linseed oil as against the price of other available oils. It has always been deemed by them to be an excellent oil, readily saponifiable and thus permitting conditions of soap manufacture superior to some of the other vegetable oils. It can be obtained in the following forms: as a crude oil, as an alkali-washed oil, as a recovered oil and at various times the fatty acids can be obtained domestically or by importation. In these latter cases the unsaponifiable matter would be relatively higher than in the whole neutral oil. Formerly, soap made from imported linseed oil, usually of Netherlands origin, possessed a distinctive green color. This was due to the chlorophyl content of the oil and consequently by common usage in the European nations this particular type of soap was called green soap. This name having become trade practice accounts for the naming of the pharmacopoeia soap, U.S.P. Green Soap. In the past 15 to 25 years, soaps made from linseed oil of domestic origin have not possessed this characteristic green color but are generally of a light amber to a dark amber shade. This was primarily due to the fact that in pressing the linseed oil from the flaxseed in the United States, the residual chlorophyl coloring matter has not been retained in the pressed oil to the same extent as in oil of foreign origin. Often in the past, the soap maker added some natural chlorophyl color in order to simulate the characteristic color.

"Linseed oil is characterized chiefly by its large content of linolenic acid which is responsible for its excellent drying properties when used as a paint vehicle. Other oils such as soya, cotton, corn, sesame, peanut, all possess smaller quantities of this constituent, as well as considerable amounts of linoleic, with various proportions of oleic, palmitic and stearic acids.

"The keeping qualities of the potash soaps made from these various oils are dependent upon the percentage of unsaturated fatty acids contained in the oil. The larger the amount, the less stability—the smaller amount, better stability. By stability we mean resistance to oxidation and subsequent rancidity. Unfortunately, linseed oil is not comparable in this respect to other vegetable oils when turned into potash soap as it is readily prone to rancidity due to atmospheric or

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HAND SOAPS in a War Time Market

WAR-TIME mobilization of American industry has been mirrored in an upsurge in the sale and consumption of hand soaps of all types in the past year and a half. How great this suddenly accelerated volume really is we cannot gauge accurately as neither the government nor the Soap Association collects separate figures on hand soap sales. Some idea of what increased volume hand soap makers are experiencing may be gained, however, from the fact that recent spot check-ups in two of the largest eastern plants turning out electrical equipment showed 20 per cent increases in 1942 over 1941 in the amount of soap consumed.

In connection with the expanding consumption of hand soaps and cleaners, a number of questions naturally arise: What are the trends in formulation; does management normally furnish soaps or do employees buy their own; what types of soap are used and for what purposes; what are the problems arising out of the uses of these hand soaps?

As to who supplies hand soap to the factory worker, our investigation indicates that almost all of the large manufacturing companies, probably a majority of the medium sized plants and a great many of the small ones furnish their employees with hand soap in one form or another. There are many reasons why management prefers to do this. One reason is that about ten years ago court decisions in various states held management responsible for certain types of industrial dermatitis. Cognizant of these rulings, several of the larger concerns immediately took remedial measures. They found that certain of the hand soaps being used by their employes were definitely harmful to the skin. In order to curb this use of harmful soaps, they provided hand cleaners at their own expense which they had studied and found to be most suitable for the purpose for which they were intended. At the same time groups of industrial physicians gathered together to discuss incidence of dermatitis and to study the best preventive measures. Dermatitis was also a problem for the safety engineer, who was called in for suggestions. Many soap makers were also consulted in an effort to reduce time lost and suffering resulting from skin irritations.

The war, accompanied by a sharp rise in industrial employment, has intensified the problems arising out of industrial skin disorders. Recently, Louis Schwartz, Medical Director of the U.S. Public Health Service, has been writing extensively on the subject of dermatitis in the magazine, *Industrial Medicine*, official organ of the American Association of Industrial Physicians and Surgeons. His articles are based on surveys in both primary war industries and in plants producing civilian consumer goods. In these articles the relationship between industrial dermatitis and hand cleaners is weighed and assessed. Remedial measures, as well as suggested, efficacious, though harmless, methods of hand cleaning are recommended. Dr. Schwartz, writing in the October, 1942, issue of *Industrial Medicine*, says: "Toilet or liquid soaps should be provided for the workers and placed in convenient locations in the washrooms. Workers having a dermatitis or dry skin should not use soap; they should use as a cleanser a neutral sulfonated castor oil, to which is added a wetting agent such as a fatty alcohol sulfonate. We have found that such a cleanser will often clear up a case of . . . dermatitis."

Two months before Dr. Schwartz' article appeared from which the above was quoted, West Disinfecting Co., Long Island City, N. Y., in the same magazine, *Industrial Medicine*, announced such a cleanser: West's Sulpho Hand Cleaner. It was designed for employes working in kerosene, solvents and other skin drying chemicals which have been a common source of skin trouble. West's cleanser, the advertisement stated: ". . . is made of sulphonated castor oil combined with a wetting agent plus a small amount of chemical cleaner." It was mentioned that the new cleaner was specially formulated in an effort to avoid defatting the skin of the user.

In the August issue of *Industrial Medicine*, Dr. Schwartz recommends: "The practice of using kerosene, refrigerant-oil mixture, and other solvents for hand cleansing should be forbidden. A mild soap, or a cleanser composed of one of the wetting agents and sulfonated oils, as a more effective and less irritating detergent for removing grease, should be furnished. Workers inclined to have dry skins that chap easily should use a suitable preparation of animal or vegetable fats and oils (such as equal parts of lanolin and cold cream) on their hands after cleaning up from the day's work."

Some idea as to the extent of industrial dermatitis caused by harsh hand cleaners may be gained by Dr. Schwartz' revelation that in one industry which he surveyed, air condi-

By Frank Reilly

tioning equipment, "16 per cent of the workmen showed dryness, fissuring, and thickening of the skin of the hands, which was thought to be caused by the use of strong hand cleansers and solvents."

That there has been a marked increase in occupational dermatitis is borne out by the findings of the American Medical Association's Committee on Occupational Dematoses. Recommendations covering the use of soaps and protective creams to prevent and control dermatitis are embodied in a report of this Committee, submitted at a Conference on Industrial Health, sponsored by the A.M.A., meeting in Chicago, January 11 to 13. The report, which blames new industries and new employes for the increase in dermatitis, finds it especially prevalent among men and women above and below the usual employment ages and in jobs where cutting oils, lubricating oils and related compounds are used. "Improper cleansing sometimes causes more cases of dermatitis than does industrial exposure" so says the report. It suggests: "The best cleanser is a mild toilet soap and plenty of warm water . . . . The use of abrasive soaps and cheap bulk soaps should be discouraged . . . Appropriate creams should be applied where there has been exposure to solvents."

Soap powders, especially those containing sodium carbonate "may readily act as irritants" a previous investigator is quoted as saying. It is further pointed out that "coconut oil is a common ingredient in soap and a common source of skin irritation and sensitization." (We have an idea that from this point on the percentage of coconut oil available for such use will not offer any serious source of skin irritation. Ed. Note).

PROTECTIVE ointments and creams are commended because of their ability to "take dirt and chemical agents with them on removal." Such preparations, however, must meet four minimal requirements, the medical association's report asserts. "1. They must be of such a consistency that they remain on the skin satisfactorily, so as to furnish adequate protection against irritant contacts while at work; 2. They must be easy to apply before work and readily removable after work; 3. They must not contain primary irritants or sensitizing agents and 4. An important essential is their cheapness of preparation in bulk."

Dr. Louis Schwartz, in *Industrial Medicine* for October, 1942, has this to say regarding the use of protective creams in the prevention of dermatitis from cutting oils. "Protective ointments, if need, should be of the type which fills the pores of the skin with an innocuous vegetable or animal fat to prevent the entrance of mineral oil. Such an ointment will also act as a buffer to the fat solvent action of the cutting oil on the skin. A small percentage of a wetting or emulsifying agent such as the fatty alcohol sulfonates, added to the protective ointment will make it easily removable from the skin with water. A small percentage of a harmless preservative may be added to the protective ointment to prevent rancidity.

Protective ointments of the "invisible glove" type are not as good against cutting oils as the type described, because resin films, insoluble in oil and which protect against oil, are soluble in water, and the perspiration which forms beneath them washes them off.

Protective ointments giving films soluble in oil, are not desirable

(*Turn to Page* 31)

One of the effective ways to combat industrial dermatoses, greatly multiplied as a result of war-inspired industrial expansion and activity, is through a direct educational appeal to employees. The three posters shown here, distributed by West Disinfecting Co., Long Island City, New York, are an integral part of plant safety practice, which if followed through properly result in reduced incidence of dermatitis, better plant health and increased production through better morale.

Heard in Washington . . .

By Jay A. Bonwit

EVENTS in Washington during the past month highlight the position of the soap and glycerine industry in the war economy. Transfer of control over the industry from the War Production Board to the Department of Agriculture emphasizes the need during a period of scarcity to pool all available fats and oils for allocation to the essential needs of the nation. Under the administration of the Department of Agriculture there will be no immediate change in personnel or policy. However, the transfer will in effect concentrate most authority over fats and oils, soap and glycerine under one agency, with the objective of attaining greater effectiveness for both civilian and war uses.

Coupled with the increased demand both for war and civilian uses at home and for expanded needs overseas is the added problem of Government controls restricting the industry's raw materials to a relatively few types of fats and oils, and both of these factors are expected to tax the ingenuity of the industry to the limit.

Major aim behind the centralization of food authority in the Department of Agriculture is to make effective this country's program of using food as a weapon in the war against the Axis, not only for feeding our Allies but to increase the military as well as the morale factor of our position in areas all over the world. In view of the fact that shortage of fats and oils is one of the first food scarcities that has invariably developed among nations at war, and with it the parallel problem of soap and glycerine supplies,—the correlation of controls over fats and oils and soap with the food administration in a more closely organized food program is of readily understandable importance.

One of the outstanding effects of the change in administration from the WPB to Agriculture is the likelihood that authority will be extended to the soap and glycerine unit in Agriculture to include certain functions in connection with purchasing for the Lend-Lease Account. While this function is not as yet determined, it is likely that it will give the soap and glycerine unit authority to determine from whom and at what price soap for Lend-Lease account is to be purchased.

While the fats and oils unit has been transferred to Agriculture from WPB, the WPB will continue to exercise certain controls over fats and oils, mainly as they relate to industrial uses. The various ramifications of the fats and oils problem are yet to be worked out in connection with the transfer. However, the policy governing inter-relationship between WPB and Agriculture indicate that while the Secretary of Agriculture will ascertain the total requirements for food for all purposes, he will accept as authoritative the determination of the WPB chairman concerning requirements for edible raw materials for industrial purposes, with some of the fats and oils cited as examples in this connection.

In this scheme of things, it is likely that WPB will continue to exercise controls over fats and oils as they relate to direct war production. Problems relating to the consumption of soap in the all-important synthetic rubber production program are also likely to be controlled mainly through WPB.

In further explanation of the inter-relationship between WPB and Agriculture, it is important that WPB will continue to exercise authority over non-food materials and facilities which are necessary to carry out the food program. This means that machinery requirements, power and the like will continue to be controlled through WPB, although the Secretary of Agriculture under the revised setup will have the authority for determining requirements in this connection.

Mechanics of this operation will be that as the Secretary indicates the requirements for materials and facilities, WPB will accept this determination as authoritative. The Secretary will in fact act as a "claimant agency" under the Controlled Materials Plan,—the new program for vertical allocation of controlled materials. WPB will allocate to the Secretary all available required materials and facilities, and the Secretary will determine the use to which they will be put, with the WPB directing the flow of these materials and facilities to manufacturers accordingly.

One further fact is of significance in the transfer of controls, and that is that the completely-experienced personnel of the former WPB Glycerine and Soap Unit, as well as of the Fats and Oils Section, will be substantially the same in the Department of Agriculture. E. W. Wilson continues as head of the soap unit, and Dr. C. W. Lenth remains as assistant chief.

Paper packaging curtailment is another problem that the soap industry will soon face. Currently it is still very much in the discussion stage, but it is likely that action will be taken in the form of a specific order on the

packaging of soap and soap products in paperboard.

Major factors dictating curtailment in paper usage are the shortages in manpower and transportation facilities in the wood pulp industry, which have already resulted in the closing down of several West Coast mills. Currently there is prospect of a shortage in papers both for newsprint and for packaging.

Newsprint consumers have already been curtailed through a series of limitation orders, and in the packaging field, an overall WPB curtailment order has been issued, with indications that specific schedules will be set for various industries with respect to their consumption of paperboard and paper. In paperboard the shortness in supply is further complicated by the fact that former consumers of tin for packaging have been forced to convert to paperboard, thereby placing an additional load on the available supply.

Immediate objective of the curtailment program in paperboard is to spread the supply as far as possible, and to conserve virgin wood pulp in order to meet essential requirements for folding and setup box packaging.

WPB plans to make an ample supply of folding and setup boxes available for all essential uses, and this objective will obviously curtail many uses and eliminate others entirely. In the field of soap packaging, it is likely that essential requirements will be met in good measure, while less essential uses,—and "frills,"—will be curtailed.

Soap packaging curtailments will probably come out in the form of an amendment,—or schedule,—to Limitation Order L-239, which is the overall order. This order is a general limitation order on packaging, designed to save approximately 225,000 tons of paperboard, or about 10 per cent of the amount of paperboard used in 1942. While the order is general in its application, it specifically affects the use of boxes for several products, including butter, lard and oleomargarine, and retail goods. The order is general in its application in that it applies to all manufacturers of folding and setup boxes, including companies which produce boxes for their own use.

General features of this order, —which will have considerable bearing on any limitations affecting soap,— include specifications on sizes of boxes and on the quantity of paperboard which may be used. Holiday or gift boxes may not be any more elaborate or contain any more material than boxes used for common packaging, and restrictions are placed on the use of metal. The order also prohibits the use of paperboard containing virgin wood pulp, and this ban is almost certain to be applied to soap packaging. Smaller unit packages for packaging soap and soap products are likely to be curtailed, in line with the general policy of limiting boxing to larger quantities. Specific dimensions can be expected for flaps and openings.

Hand Soaps in War Time

(From Page 29)

because the cutting oil washes them off. The soluble cutting oils will wash away both types of these films. Moreover, the "invisible glove" type of protective ointment cracks when the joints are flexed and leaves areas of the skin unprotected."

The increased use of protective hand ointments or creams in many of the larger and more modern industrial organizations is one of the developments that has been greatly accelerated by the war and findings of industrial medical groups. Two of the largest former automobile manufacturers, now of course solely engaged in the production of war material, report that they require workers in the handling of solvents and in the paint shop to use protective hand coatings. As to the type of soap supplied by these firms, one uses liquid soap, the other is switching from liquid to a powder hand soap. "Company A" using liquid soap has been supplying it to its employees for the past seven or eight years. The specifications are made up in the main office for all the branches. The local plant contacted, which is an assembly plant, and therefore has a fairly clean type of work, finds that the liquid soap is perfectly adequate as a hand cleaner. They say that they don't need a strongly adhesive cleaner. The soap is purchased by the main office of the company and shipped to the various branches.

"Company B" performs a similar type of work at the local branch plant. The spokesman there said he found the liquid soap had "too high an alkali content." That was the reason given for the shift to powder type soap. Each individual unit of this corporation orders the type of cleaner it feels best, although the home office does lay down specifications within the framework of which it likes its branches to order hand cleaners. However, the switch from liquid to powder was reported to be fairly general in all its branches. Since "Company B" furnishes hand cleaner for its workers, they try to discourage the use of individual soaps brought in by the workers. No cases of dermatitis had been reported at this plant. Both plants specify the same cleaner for both men and women, since both groups perform similar work with the same materials, and therefore, the hand cleaning problem is the same.

Differences in the choice of cleaner for plants performing similar operations is quite general: two electrical manufacturing plants whose output is similar use different cleaners. One uses liquid soap, the other powder. However, the one that uses powder in the manufacturing divisions, supplies liquid soap in office wash rooms.

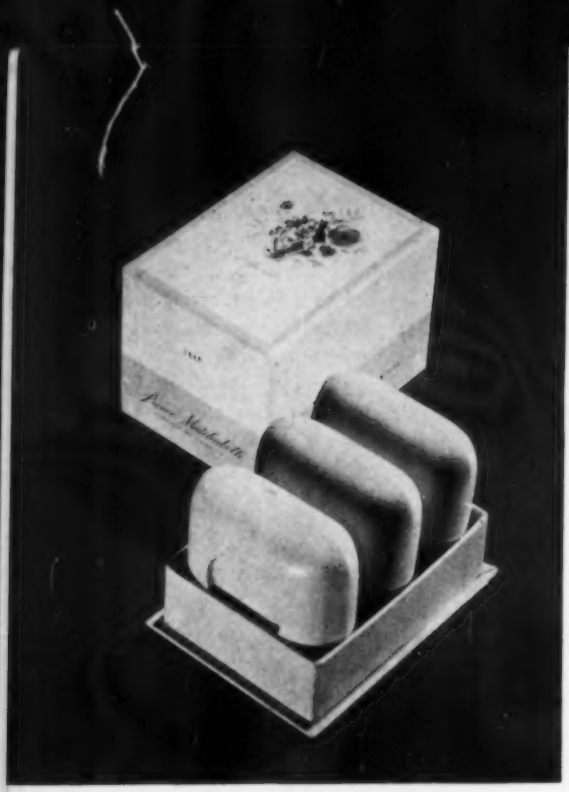
The main office of one of the largest aircraft engine manufacturers uses powder in the factory and liquid soap for office workers. Like most of the other war goods manufacturing plants contacted, this one reported a great increase in hand soap consumption as a result of increased employment.

Statements from soap makers pretty generally agree that if there is a trend in any one direction in the preference of a hand soap, it is toward the powder type hand cleaner. There are a variety of reasons, not the least of which is its easy dispensability, its economy, and its effectiveness. Liquid soap, especially in those organizations that

(Turn to Page 62)

New Products

. . .

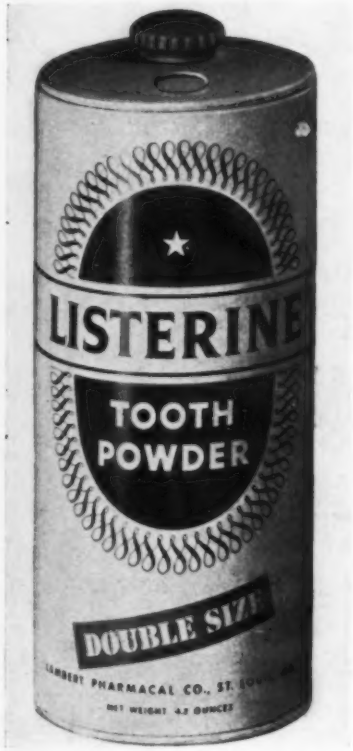


These three crown emblazoned cakes of Prince Matchabelli's Potpourri soap are new, have a flowers-and-spice fragrance, come in a delicate shade of pink and retail for $1 per box of 3.

Cities Service Co., New York, are now putting up their insecticide in glass. The new package has an applied color lettering label with imprinted directions.

Shulton, Inc., New York, combines the decorative with the practical in composing its new Old Spice Tissue gift box. Three toilet size cakes of Old Spice scented soap and a cylinder of talcum are effectively ensembled to retail for $1.50.

and Packages

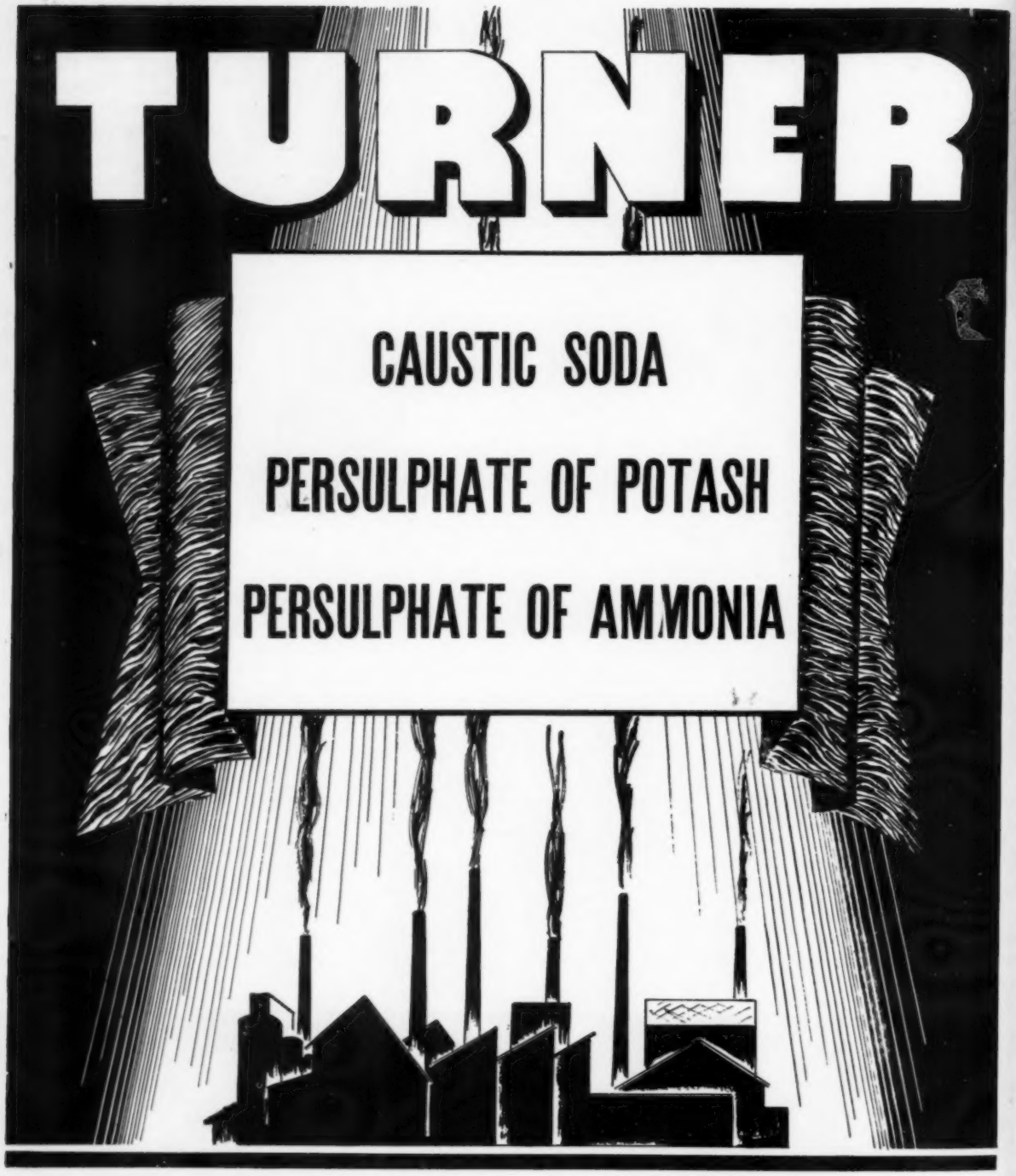


Newly packaged Listerine (Lambert Pharmacal Co., St. Louis,) comes in this cylindrical paper container of shiny white. It is dispensed by means of an opening at the top formed by a twist of the plactic dial. Glassine laminated surfaces are designed to keep out moisture.

Ariderma
TRADE MARK
DRY SKIN SOAP
A beauty soap of super-fine quality
15¢ PER CAKE
A NEW FORMULA SOAP FOR DRY SKIN ... TREATED WITH MILK SOLIDS AND LANOLIN for EXTRA MILDNESS

Ariderma Dry Skin Soap, which has just been released to the trade by Lightfoot Schultz Co., New York, is treated with lanolin for mildness and gentle cleaning. Comes in unit counter display shown here at 15 cents, and novel chest unit that contains five cakes to retail for 75 cents.

Trans—new, bottled toothpaste—has just been introduced by Golden Peacock, Paris, Tennessee, "pours from the bottle and stands up on the toothbrush." Four ounces retail for 25 cents.



JOSEPH TURNER & COMPANY

RIDGEFIELD, NEW JERSEY

83 Exchange Place, Providence **40th St. and Calumet Ave., Chicago**

NEWS

King Joins FDA Soap Staff

Dr. A. E. King, formerly of Swift & Co., Chicago, has recently joined the staff of the Soap and Glycerine Unit of the Food Distribution Administration, as a technical consultant. Dr. King had been connected with Swift for twenty-seven years in sales, research and manufacturing capacities. He joins Dr. C. W. Lenth, formerly research man for the Soap Association, in technical assistance to E. W. Wilson, chief of the unit. The personnel of the unit also includes W. A. McConologue, formerly of the Technical Service Division of the Industrial Department of Colgate-Palmolive-Peet Co., whose connection with the unit was reported last month.

Swift Gets Salvage Award

Swift & Co., Chicago, have received a citation for "Outstanding Performance" for their contribution of forty-five tons of scrap metal to the current salvage collection drive in Chicago. The junk was obtained by demolishing a huge horizontal tube evaporator, that had been used for manufacture of glycerine during the first World War.

C-P-P Personnel Changes

Thomas J. Williams, formerly factory superintendent, has been made a vice-president, and R. L. Jones, who has worked his way up through many departments, was appointed superintendent of the Toronto factory in recent changes made by Colgate-Palmolive-Peet, Ltd. Mr. Williams joined the plant engineering department of the company's Milwaukee, Wis., branch in 1917, later becoming assistant superintendent. In 1919, he was transferred to the Toronto branch, thence to Sydney, Australia, where he was in charge of the construction of the factory there from 1923-1925. Completing that job, he returned to

THOMAS J. WILLIAMS

Toronto in 1925, and has been there since. He is a native of Watertown, Wisconsin.

Guenther on Essential Oils

Dr. Ernest Guenther, chief research chemist of Fritzsche Brothers, Inc., New York, gave two illustrated lectures on Jan. 25 and 28 respectively at the Hotel New Yorker, New York, on "Essential Oils and their Production in the Western Hemisphere." The lectures were accompanied by motion pictures taken by the author on a trip by air of several months through South and Central America and parts of the United States showing growing, harvesting, distillation and other details of production. He was accompanied by Frederick Leonhardt, president of Fritzsche Brothers, on the trip.

Several hundred persons attended each lecture. Joseph A. Husiking, vice-president of Fritzsche Brothers, introduced Dr. Guenther and acted as host. Mr. Leonhardt also spoke briefly on each occasion.

Edlund Jr., Lozier Jr. in Khaki

To our list of sons of soapers serving the United States have been added the names of two sons of members of the Soap Association Staff. They are Major Lue C. Lozier, son of former Congressman Ralph Lozier, and Captain Harold E. Edlund, son of Roscoe Edlund, secretary of the Association. Major Lozier, a past commander of the Missouri department of the American Legion, is assigned to the Sunflower ordnance works near De Soto, Kansas, as executive officer and assistant to the area engineer. He was recently elevated from the rank of captain. Captain Edlund is in the Control Division Staff of Lieutenant General Brehon B. Sommervell's Services of Supply. At present he is a Control Officer of the WAAC's.

Schulman Joins Washine

Herman M. Schulman, formerly of Philipp Bros., and R. H. Macy & Co., New York, has been appointed head of industrial chemical sales for Washine-National-Sands, Inc., Long Island City, manufacturers of sodium hypochlorite, detergents and industrial chemicals. A graduate of Syracuse University, majoring in chemistry, Mr. Schulman also served with St. Regis Paper Co.

Ill. Institute Honors Eastwood

George A. Eastwood, president of Armour & Co., has been elected to the Board of Trustees of the Illinois Institute of Technology, for a three-year term.

George Mann Dies

George Mann, head of George Mann & Co., Providence, R. I., chemical dealers, died recently following an operation.

P&G Deny Espionage Charge

Full and complete denial of charges that Procter & Gamble and six individuals used the mails illegally in an attempt to steal soapmaking trade secrets, formulae and other production data was made by counsel for the defense at a hearing of the case in Boston Federal Court, January 19. The attorney for Procter & Gamble, defendants, said that no officer or director of the company authorized or had any knowledge of the alleged conspiracy to obtain confidential information about products of Lever Brothers Co., of Cambridge, Mass. Four former employes of Lever Brothers who were named in the indictment, pleaded guilty.

Chicago Toiletries Assn. Elects

Members of the Chicago Perfumery, Soap and Extract Association, at their annual business meeting in December, elected the following officers for 1943: president—Jules B. Montenier, of the Jules B. Montenier Co., cosmetics mfgrs.; vice-president—Joseph Gauler of Fritzsche Bros., Inc., essential oils; secretary-treasurer, Herbert Rothschild of Lanchere, Inc., toilet preparations. Ten committees are to be named at the February meeting, Secretary Rothschild stated, and the year's program of activities mapped out. Considerable attention, he said, will be devoted to legislative activities of the Illinois General Assembly, which might affect the industries represented in the Association's membership.

Revise Carlot Shipping Rules

The Office of Defense Transportation, in furthering its efforts to obtain full utilization of available freight transportation facilities, has revised its minimum weight requirements for carlot shipments of a long list of commodities. In the field of chemicals, specifications for minimum weight of loads which railroads are permitted to accept in carlots cover ammonium bicarbonate, ammonium chloride, calcium chloride, caustic soda, lye, paradichlorobenzene, potassium carbonate, potash, sal-soda, silicate of soda, soda (bicarbonate) and "chemicals, not otherwise named herein." The special directive, titled "ODT 18—Revised 5," became effective Jan. 4, 1943. It replaces previous directives covering minimum carlot loadings which are specifically revoked by the newest order.

Shulton Man Co-Metic Officer

Norton Breiseth, Shulton representative in Minnesota, North and South Dakota, was appointed secretary and treasurer for 1943 at the regular meeting of the Minneapolis Co-Metic Club, recently.

Allow Cans for Drain Cleaner

Can restrictions on packaging of drain cleaners have been liberalized in a new amendment to Conservation Order M-81 issued January 4. The amendment provides that for the first half of 1943 packagers of drain cleaners are allowed a packing quota of 50 per cent of the 1942 figure. The permitted can size is 12 ounces. Both body and ends of the can are to be of black plate.

Set Alkali Delivery Plan

Distribution of caustic soda by zone to cut out cross-hauling will be tried out for the first time in February or March according to a plan worked out between alkali manufacturers and the War Production Board, it was announced recently. Under terms of the plan the country will be divided into eight sections or zones based on production centers for shipments of caustic soda. Alkali plants then may not ship outside their particular zones without authorization of the WPB. In this way, it is understood, shipping distances can be greatly reduced. A Texas plant for instance would not make shipments into Ohio if there is a plant in Ohio to serve the state or zone.

Haebler Joins Goldschmidt

Philip E. Haebler is joining the Goldschmidt Chemical Corporation of New York as vice-president. He has resigned from van Amerigen-Haebler, Inc. Mr. Haebler is a member of the Toilet Goods Association Convention Committee.

Brillo Indicted On Steel Use

Brillo Manufacturing Co., Brooklyn, one of the largest manufacturers of steel wool cleaners for kitchen utensils, was indicated January 21, by a Federal grand jury in Brooklyn for violating a War Production Board conservation order. Indictments against the company and its president and vice-president charged that they used 400,000 pounds of steel in excess of their quota and illegally produced more than 800,000 pounds of steel wool from June 20, to December 31, 1942.

The order they were accused of violating was M-126, which restricts and prohibits the use of iron and steel in non-essential products. Contrary to popular belief, according to a WPB representative, steel wool is made not from scrap or waste materials, but from a special wire which is needed for military purposes.

P&G Earnings Drop

Procter & Gamble Co., Cincinnati, O., earned $10,194,515 for the six months ending December 31, after allowances for $6,610,000 Federal income and $1,692,000 excess profits taxes had been made, which was equal to $1.54 a share on the common stock. In the same period for 1941, $1.98 a share was paid on common stock when the net was $13,015,305.

Shulton Rep. in Coast Guard

James W. Murphy, Shulton, Inc., New York, representative for New England, recently joined the Coast Guard Division of the U. S. Navy. He reported for duty on Monday, January 18, and at present is stationed at Coast Guard Navy Station in Manhattan Beach, N. Y.

Manhattan Income Tax Premium

Manhattan Soap Co., New York, is offering users of "Sweetheart" toilet soap a novel premium—a 48-page booklet entitled "Income Tax Made Easy." It includes specimen copies of income tax forms, with step-by-step instructions for filling them out, together with a special section containing information for soldiers and sailors and a personal income record for 1943.

Oil Ban Hits Kosher Soap

THE particular problems of Kosher soap manufacturers under the terms of the recent amendment to M-71, banning use of edible oils in the soap kettle, are outlined in the following letter from Dr. Aaron Rokeach, president of I. Rokeach & Sons, Brooklyn:

"The Kosher soap industry has enjoyed a Kosher soap business for approximately 50 years. Its total manufacturing capacity constitutes but a fraction of 1 per cent of the general soap business in the United States. The total amount of oil which is consumed in the making of Kosher soap in this country is approximately 4,000,000 pounds per year, and the amount of business does not exceed $1,000,000.00 annually.

"The sale of Kosher soap is very limited. It is used primarily in the kitchens of orthodox Jewish homes for the cleansing of dishes, pots, pans, etc. It is a necessary requirement for the orthodox Jewish consumer, in order for that consumer to comply strictly with the Jewish Dietary Law.

"Until the end of May 1942, Kosher soap was made exclusively from Cochin type coconut oil. When the use of coconut oil was prohibited, the industry was compelled to change to a domestic vegetable oil.

"Kosher soap is a cold processed soap and the manufacturers are small concerns which do not have the facilities for any other type of soap production or for the extraction of glycerine. The amount of business done by the entire Kosher soap industry does not warrant the construction of a special soap plant with all the necessary machinery for the production of boiled processed soap, and for the extraction of glycerine.

"With the enactment of the recent amendments to Order M-71, the manufacturers of Kosher soap were practically eliminated from the market. It is understood that these rules and regulations were made for the sole purpose of conserving oils essential in the winning of the war, and with this purpose we wholeheartedly agree. If the small fraction of the entire vegetable oil production used by the Kosher soap manufacturers is an essential requirement for the war effort, we have no argument to offer against the amendments to Order No. M-71. If millions of our young men are willing to sacrifice their lives in order to win this war, we have no right to refuse to contribute our small share.

"The question to determine therefore is, in order to prosecute the war effort more efficiently, is it necessary to deny to these small concerns the very limited amount of oil which they so urgently need. However, we wonder whether the War Production Board, in establishing the amendments to Order No. M-71, were acquainted with the requirements, which are very minute, of the Kosher soap industry. We also wonder whether they realize the necessity of Kosher soap to the religious consumer, and the fact that the Jewish consumer will be unable to find a substitute. Perhaps under more detailed consideration by the War Production Board, the Kosher soap manufacturers might be excluded from the amendments, and be permitted their limited requirements of domestic vegetable oils for the manufacture of Kosher soap, in order to supply a very important need of the Jewish consumer."

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OPA Faulty Merchandise Rules

The OPA recently called the attention of cosmetics and toiletries manufacturers and distributors to GMPR No. 165, which establishes maximum prices for replacing or reprocessing faulty, damaged merchandise or returns. Where it has been a customary part of the terms of sale of cosmetic merchandise for the manufacturer or distributor to replace or reprocess faulty or damaged merchandise, the General Maximum Price Regulation prohibits changes in customary allowances which would impose more severe conditions of sale. A manufacturer or distributor who customarily replaced merchandise which was faulty may not discontinue that practice. Modifications which do not change prices above those established by GMPR are permitted. The OPA further states that manufacturers or distributors may not increase the customary charge for reprocessing or replacing shopworn merchandise.

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Cleveland TGA Elects

The Cleveland Toilet Goods Association, which was formed following the toilet goods show in Cleveland last fall, to act as a liasion agency between manufacturers' representatives and retailers in Ohio, has just announced the names of the club's officers and directors. Harry G. Payne, Harriet, Hubbard Ayers, Inc., is president; Walter J. Walsh, Yardley & Co., vice-president; Don B. Sherman, Houbigant Sales Corp., secretary-treasurer; Clarence W. Burt, Shulton, Inc., publicity director; M. F. Wallace, Luxor and American Beauty Products, and W. S. Morgan, Allen B. Wrisley, Inc., members of the board of directors.

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Brewster Stearns Sales Head

Rafael C. Brewster was recently appointed general sales manager in charge of sales and advertising for Frederick Stearns & Co., manufacturers of pharmaceuticals, Detroit.

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Singer of Wrisley Commissioned

Wm. L. Singer, assistant to Wrisley B. Oleson, president of the Allen B. Wrisley Co., Chicago, has received a commission as Lieutenant, j. g., in the Navy and entered an Officers Training School. Mr. Singer had been with Wrisley's nine and a half years and is the first of the firm's executive officers to receive a commission.

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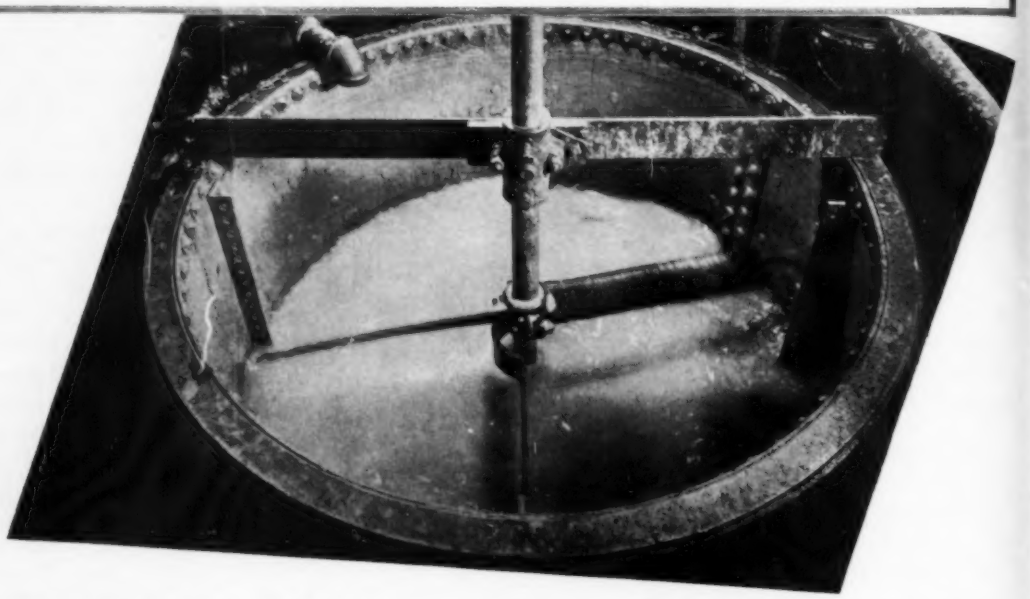
Peterson of Armour Dies

A. N. Peterson of Armour & Co., Chicago, died January 21 following a heart attack. He had been southern district manager on soap sales for a number of years.

GET FASTER SAPONIFICATION WITH *NEO-FATS!*



ARMOUR'S NEO-FAT FATTY ACIDS
MAKE SAPONIFICATION TWICE AS FAST!
SAVE TIME . . . AND MONEY!

Compare NEO-FATS with neutral fats. You will find that saponification is at least twice as fast with NEO-FATS. And that means it takes just *half as long* to turn out your present volume of soap. Thus production costs, unit labor and equipment costs are sharply cut.

3 More NEO-FAT Advantages

1. Greater Yield. You will get a consistently higher yield of anhydrous soap per pound of fat base using NEO-FATS than with whole fats.

2. Better Quality Soap. NEO-FATS give you a better finished, more neutral soap because saponification is complete. Moreover, the uniformly high quality of NEO-FATS themselves, which is assured by Armour's rigid chemical control of every production step, is naturally reflected in your finished soap.

3. Glycerine-Free. NEO-FATS contain no glycerine. Therefore, when you use NEO-FATS for your soaps, you need no facilities to recover glycerine (now being conserved for vital war requirements, as required by WPB).

Get Free Samples. So you can see proof of NEO-FATS' big advantages in your own plant, Armour will gladly send you FREE samples. Listed below are NEO-FATS specially prepared for soap manufacture. Check those you would like to try, clip the coupon and send to Armour.

Armour and Company
Neo-Fat Division
1355 West 31st Street, Chicago, Illinois

Please send me samples of the NEO-FATS checked below.

_____ Neo-Fat No. 3 (Mixed Oleic-Linoleic Acids)
_____ Double Distilled Corn Oil Fatty Acids
_____ Double Distilled Cottonseed Fatty Acids
_____ Double Distilled Soybean Fatty Acids
_____ Double Distilled Linseed Fatty Acids
_____ Double Distilled Palm Oil Fatty Acids
_____ Double Distilled Animal Fatty Acids

ARMOUR AND COMPANY
Neo-Fat Division
1355 WEST 31ST STREET • CHICAGO, ILLINOIS

I. H. TAYLOR

BERT CREMERS

Michigan Alkali, Ford Merge

Michigan Alkali Company, Wyandotte, Mich., and its affiliate, the J. B. Ford Company, have consolidated as one company to be known as Wyandotte Chemicals Corporation. The consolidation, which combines in one organization one of the largest producers and distributors of chemicals and the world's largest manufacturer of specialized cleaning materials, was effective January 1.

E. M. Ford, formerly vice-president and treasurer of Michigan Alkali Company, is president of the new corporation.

F. S. Ford and W. F. Torrey are vice-presidents; Ford Ballantyne is secretary and treasurer. Other officers are: S. T. Orr, vice-president in charge of manufacturing; I. H. Taylor, vice-president in charge of sales; G. W. Schwarz, controller; C. B. Robinson, vice-president in charge of sales, J. B. Ford Division; and Bert Cremers, vice-president in charge of Michigan Alkali sales.

The sales departments of both companies will temporarily maintain their separate identities as divisions of Wyandotte Chemicals Corporation. The Michigan Alkali Division will be responsible for sales in the glass, soap, paper, chemicals (carload lots), and several other specific fields, while the J. B. Ford Division, will cover dairies, laundries, bottlers, metal cleaners, hospitals, institutions, brewers, railroads, and other industries not specifically assigned to Michigan Alkali Division and will also continue to promote the sale of "Wyandotte" cleanser for home use. Both divisions will call on textile and railroad customers.

The Michigan Alkali Company, which is one of the largest producers of soda ash, caustic soda, chlorine, and other industrial chemicals, was established 52 years ago. The J. B. Ford Company was organized in 1898.

Tighten Tin Tube Restrictions

Further curbs on the use of tin in tooth paste and shaving cream tubes, which are expected to save an additional 100 tons of tin during 1943, were announced by the WPB, January 13, in the form of a new amendment to Conservation Order M-115. During 1943 manufacturers may not pack more than 75 per cent of the amount of toothpaste they packed in 1942 in tubes containing tin. Beginning April 1, 1943, the tin content in toothpaste tubes is to be cut from the present 5 per cent to 3 per cent. Effective immediately, the use of tin in the manufacture of shaving cream tubes is prohibited. However, manufacturers may use up tube blanks containing up to 1.5 per cent tin which they had in inventory as of January 13, 1943.

Portman Leaves Chemicals, Inc.

E. C. Portman, national sales manager for Chemicals, Inc., Oakland, California, has resigned that position to work in closer association with the war program. Edward Price, who has been with the company since it was started, succeeds Mr. Portman.

Transfer WPB Soap Unit

The Soap and Glycerine Unit of WPB was transferred to the Department of Agriculture, January 11. According to the announcement, the entire organization and personnel of the Fats and Oils Section of the Chemical Division of WPB, which includes the Soap and Glycerine Unit, is included in the transfer. E. W. Wilson continues in charge of the Soap and Glycerine Section. The transfer of jurisdiction arises from the recent appointment of the Secretary of Agriculture, Claude R. Wickard, as U. S. Food Administrator. Since jurisdiction over fats and oils, the soap maker's most important raw material was centered in the Food Administration, it was thought wise to have the soap unit under the same control. The Soap and Glycerine Industries Advisory Committee will continue to function with the same personnel under the new set-up. Headquarters of the Soap and Glycerine Unit are in Room 2117, Temporary Building S, 7th and Independence, Washington, D. C.

Girls Ballot on Soap

"Lux" was selected as the favorite toilet soap by readers of the magazine *Calling All Girls* in a recent survey conducted by the publishers, Parents' Magazine Press, New York. Of 2,880 readers who replied to questionnaires, 863 selected "Lux" as their favorite, while 412 named "Palmolive," 376 voted for "Woodbury's" and 305 selected "Camay." "Colgate" was named as the favorite dentifrice by 704 readers, with "Ipana," 526, "Pepsodent," 448, and "Dr. Lyons," 241, next in order of preference.

DCAT Dinner March 4

The annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held at the Waldorf-Astoria Hotel, New York, March 4. A substantial contribution from the proceeds of the dinner will be made to a selected war charity, following the precedent set last year when a donation was made to the American Red Cross. This will be the 18th annual dinner of the Section.

ODOR MASKS
for TECHNICAL PRODUCTS...

☆

TODAY, it's an accepted practice—and a highly profitable one when properly applied—to use scientifically compounded aromatics as a means of counteracting or "blanketing" the odors that characterize certain technical products. The use of this principle is reaching into more and more fields . . . in such every-day products as liquid insecticides, sprays of various types, polishes, waxes, glues, petroleum distillates, plastics, solvents, and many others. In studying the masking problems of hundreds of different products and providing deodorants specifically suited to each, we have developed the following specialties, outstanding for their effectiveness, economy and adaptability:

NEUTROLEUM is a general purpose deodorant which completely and permanently deodorizes a great variety of technical mixtures, including insecticides based upon petroleum distillates. Its use permits reduction of from 40 to 70% of the perfume subsequently used for aromatization.

NEUTROLEUM is extremely economical. It is available in two types—NEUTROLEUM ALPHA for use when no additional aromatics are employed, and NEUTROLEUM GAMMA for neutralizing odors without perceptibly imparting an aromatic character. One pound of NEUTROLEUM ALPHA effectively deodorizes 1000 pounds of floor wax; two pounds of NEUTROLEUM ALPHA or GAMMA are sufficient to deodorize 8000 gallons of cleaner's naphtha or petroleum distillate. Kerosene for fly sprays may be deodorized at the rate of one ounce per 50 gallons.

For insecticides based upon Thanite or Lethane, we have perfected the following inexpensive, yet highly efficient deodorants:

THANITE DEODORANT No. 14155 will neutralize the odor of Thanite without imparting a definite perfume note. It may be used at the rate of 1/10 of 1% per unit quantity of the finished spray.

THANITE DEODORANT Nos. 14153 and 14154 will impart a pleasant scent to the spray as well as neutralize the odorous Thanite when used in same proportions as above.

DEODORANT No. 13454 is an even more economical product than the foregoing. Less than 1/10 of 1% produces a practically neutral spray.

DEODORANT P-36 is offered especially for sprays based upon Lethane 384 Special. It gives excellent results when used at the rate of 1 to 1¼ ounces per gallon of *undiluted* Lethane.

☆

Write us on your letterhead for samples and full instructions for the use of any of the above odor masking specialties.

☆

FRITZSCHE BROTHERS, Inc.

PORT AUTHORITY COMMERCE BLDG., 76 NINTH AVENUE, NEW YORK, N. Y.

BRANCH STOCKS

BOSTON CHICAGO LOS ANGELES ST. LOUIS TORONTO, CANADA MEXICO, D. F.

FACTORIES AT CLIFTON, N. J. AND SEILLANS (VAR) FRANCE

48

In our Country's Service

☆

Essential Oil Assn. Elects

V. H. FISCHER of Dodge & Olcott Co. was re-elected president of the Essential Oil Association of U.S.A. at the annual meeting of the organization held January 8, at the Hotel Warwick, New York. Other officers re-elected for the coming year include John H. Montgomery, Fritzsche Bros., vice-president, Robert B. Magnus, Magnus, Mabee & Reynard, Inc., secretary-treasurer, and Charles Fischbeck, P. R. Dreyer Inc., and Frederick Buehler, George Lueders & Co., members of the executive committee.

In his annual report to the members, Mr. Fischer reviewed the activities of the association over the past year. Never, even during the days of the NRA, he reported, had the essential oil industry been confronted with so many rules and regulations issuing from federal agencies. The first major problem of the year was faced in the government restrictions on tin, as no satisfactory substitutes were available. Discussions and correspondence with the WPB finally resulted in an amendment to Order M-81 permitting the use of tin plate containers in shipping essential oils.

The need for shipping space for essential oils, Mr. Fischer reported, is another problem which is currently receiving the attention of the association.

The scientific committee of the association has been very active during the past year, it was reported, under the chairmanship of Dr. Eric Kunz of

V. H. FISCHER

Givaudan-Delawanna, Inc. A number of the committee's suggestions have been followed by the Revision Committees of the U.S.P. and N.F. in the new editions of the two publications which have appeared within recent months.

◆

Colgate Plans Post-War Jobs

S. Bayard Colgate, chairman, Colgate-Palmolive-Peet Co., is serving as a member of the research committee of the Committee for Economic Development, an organization of American business men for postwar planning. Tackling the task of assuring a satisfactory level of employment after the war, the committee is working on the premise that America must be prepared to provide approximately 55,000,000 jobs, 9,000,000 more than in 1940, as soon as possible after hostilities cease. To reach the committee's employment objective, Hoffman said, the nation must produce and sell an annual output worth between $135,000,000,000 and $150,000,000,000 or 35 to 50 per cent more than in 1940, when the national income was approximately $100,000,000,000.

◆

F. J. O'Brien Can Institute Head

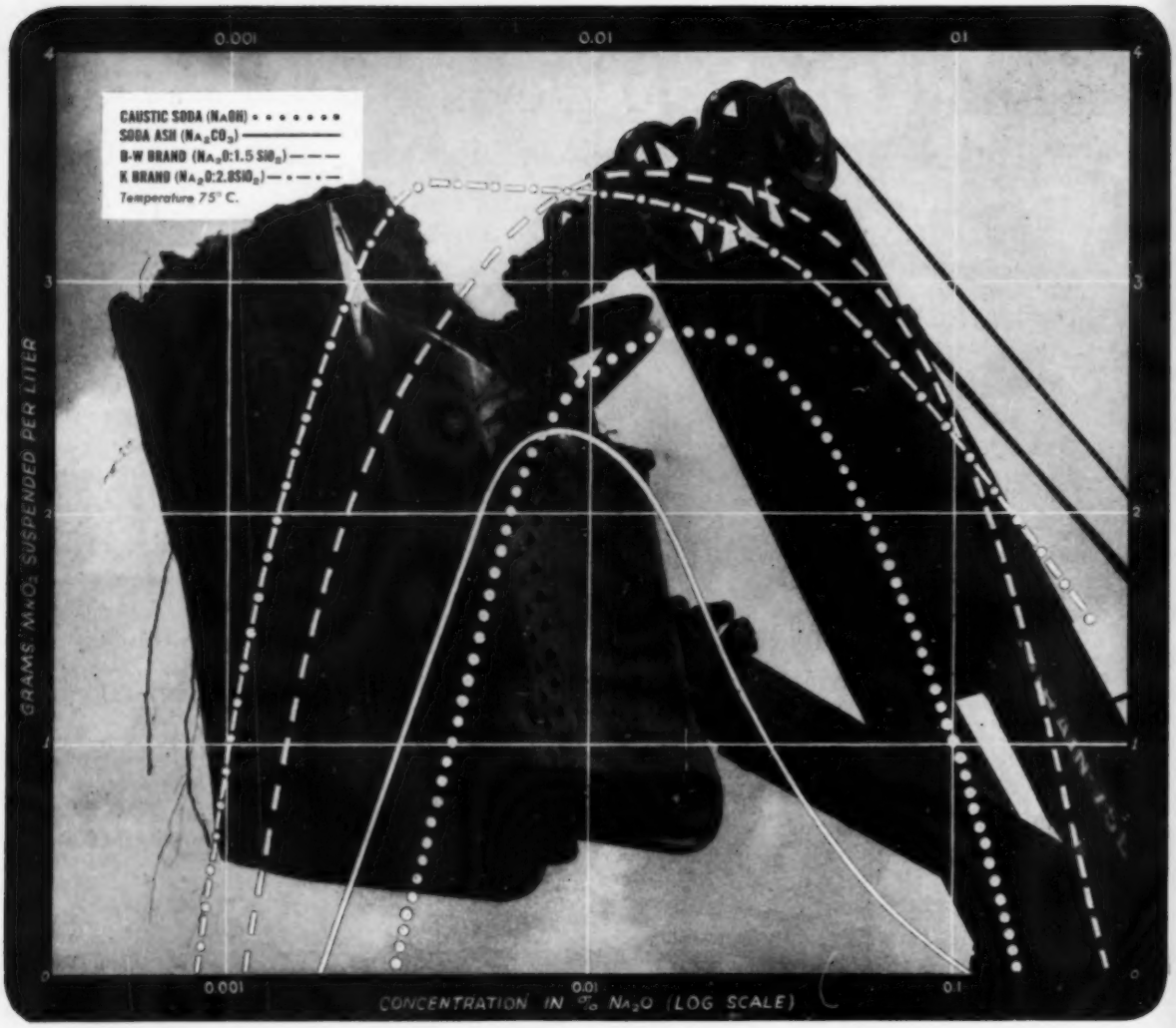
Frank J. O'Brien, executive vice-president of Continental Can Co., Inc., was elected president of the Can Manufacturers' Institute, it was announced January 15. Mr. O'Brien has been actively connected with the can manufacturing industry for more than 25 years. He joined Continental in 1928, when that company took over Southern Can Co., Baltimore, with whom he was vice-president and general manager.

◆

Murphy Named ACS Editor

Walter Murphy, formerly editor of *Chemical Industries*, has taken the post formerly held by the late Harrison E. Howe as editor of the publications of the American Chemical Society. These include *Industrial & Engineering Chemistry and Chemical & Engineering News.*

Essential Oil Association Meets at Hotel Warwick, New York



How SiO_2 Aids Cleaning

PQ Silicates Keep Dirt Aloft

When you measure detergent action, you look for stable suspension of solid dirt. PQ Silicates of Soda qualify as your effective, economical suspenders. Subsequently they rinse away, preventing re-deposit of the removed dirt.

The specific effect of the silica content in this phase of cleaning is clearly indicated in the above chart. Note the wide range of concentration over which the silicate solutions exert good deflocculating action in comparison with the same amounts of titratable sodium oxide in other alkalis.

May we tell you about this and other valuable detergent properties contributed by PQ Silicates to cleaning compounds and soaps? Send for Bulletin #170, "The Role of Silica."

PHILADELPHIA QUARTZ CO.

SILICATES OF SODA

125 S. THIRD STREET, PHILA., PA.

Soap Advisory Committee Meets; Suggests Further Glycerine Cut

A RECOMMENDATION that the allowable glycerine content of boiled soaps be reduced from 1 per cent on an anhydrous soap basis to 0.8 per cent, and that in all other soaps the maximum be reduced from 2.75 per cent to 1 per cent, was one of the most important decisions reached at the recent meeting in Washington of the Soap and Glycerine Industry Advisory Committee. Another sub-committee named to consider the container situation reported that the industry has saved approximately 15 million pounds of box board by economies that it has practised over the past year. Recommendations of new methods of packing and wrapping are hoped to boost this saving to a total of 38 million pounds over the current year.

Another sub-committee appointed to study the transportation problem reported that soap manufacturers already have released about 50 per cent of the tank cars and from 35 to 40 per cent of the box cars used for the shipping of their products. This saving had been made possible, it was reported, by increased loading, faster unloading and dispatching of cars, and by use of trucks and water transportation. Approximately 30 per cent of the industry's output is now said to be moving by truck or water.

The same committee recommended that the Food Distribution Administration study facilities for the manufacture of soap for the Army and Navy closest to the point of consumption, and also study other ways of eliminating circuitous routings. Plans to make greater use of inland waterways are being formulated. Further investigation of truck shipments in regard to loading capacity, and the holding of trucks until they carry full loads will be made.

The sub-committee also reported on the possibility of shifting production away from areas where labor and fuel shortages exist. A map prepared by the sub-committee showed that soap production closely parallels soap consumption. No substantial amount of shifting of plant production would be possible, they felt, because of lack of extra plant capacity. All of the larger soap manufacturers already have converted from oil to coal.

◆

DCAT Dinner March 4

The annual dinner of the Drug, Chemical and Allied Trades Section of the New York Board of Trade will be held at the Waldorf-Astoria Hotel, New York, March 4. A substantial contribution from the proceeds of the dinner will be made to the United Seamen's Service. Last year a donation of over $6,000 was made to the American Red Cross from the proceeds of the dinner. The Seamen's Service is an organization dedicated to the rehabilitation of United Nations sailors during their brief periods of shore leave.

A meeting of the publicity and reception dinner committees, presided over by Victor E. Williams, of Monsanto Chemical Co., chairman of the Section, was held at the Waldorf-Astoria, January 27, to complete plans for the dinner. Mr. Williams announced that more than 600 reservations for the dinner had already been made.

◆

C-P-P Tests New Packs

Colgate-Palmolive-Peet, Jersey City, N. J., is testing in Dover, N. J., its two new priority-proof packages: a celluplastic tube for dental cream and conical shaped cardboard container for its tooth powder.

◆

Fix Tallow, Grease Ceilings

Uniform, nationwide dollars and cents ceiling prices on tallow and greases were established by the OPA on January 25 in Amendment 22 to OPA Schedule 53, replacing the former system of geographical price differentials. Maintenance of these differentials was found to be undesirable, the OPA stated, because it was impossible adequately to delimit zones. Besides establishing uniform prices, the new amendment adds two new grades, Naphtha Extracted Bone Tallow and Garbage Grease, changes a number of specifications on other grades, and allows fractional cent increases on No. 1 Fleshing or Glue Grease, No. 2 Fleshing and Glue Grease and Pigskin Grease.

◆

LoBue New CSA President

Phil J. LoBue, of Michigan Chemical Co., was elected president of the Salesmen's Association of the American Chemical Industry at a dinner meeting at the Chemists' Club, New York, Jan. 21, succeeding Gerald S. Furman, Merck & Co., who resigned because of War duties. Other officers include: Frank Fanning, N. I. Malmstrom & Co., vice-president; Charles Alexander, L. Sonneborn Sons, Inc., treasurer; James McInnes, Commercial Solvents Corp., secretary.

◆

Felton Expands Plant

Felton Chemical Co., has purchased a sizeable piece of property adjacent to their plant in Brooklyn, N. Y. The additional space is needed to accommodate increased business. The new property has a frontage on Johnson Avenue of 125 feet and is 200 feet deep. There are several brick and concrete buildings which are being used for manufacturing purposes and a large yard for the storage of materials in drums.

◆

H. H. Rosenthal in 25th Year

H. H. Rosenthal Co., New York, exporters, importers, manufacturers, distributors and commission merchants of chemicals, waxes, oils and botanicals, is this year celebrating its 25th anniversary. Founded in 1918 by H. H. Rosenthal, the company merged eight years later with the firm of H. B. Bercow Co., also begun in 1918.

◆

Sodium Chlorate Supply Eases

Supplies of sodium chlorate for weed eradication will be available for major needs during 1943 without rigid state quotas, it was announced January 8 by the Department of Agriculture and the WPB. The material is still subject to allocation, but the supply situation is reported to be much easier than it was a year ago.

CROWN CAN *has a real interest in that Baby!*

Recognize it? If you don't... the Japs do... to their sorrow.

It's a Vought-Sikorsky (Corsair) ... fastest fighting plane of the United States Navy.

The skill and craftsmanship that is producing Crown Cans is also employed in making cowlings for the engine of this Vought-Sikorsky fighter.

And here's what Mr. J. M. Barr, Assistant General Manager, of Vought-Sikorsky Aircraft, says about how well Crown is doing its part of the job:

"Mr. Schramm says the fit is excellent and the workmanship leaves nothing to be desired... It is the desire of this division to take pride in the work of its subcontractors and we certainly feel justified in the case of the Crown Can Company."

"The workmanship leaves nothing to be desired." Thank you, Mr. Barr!

But that's an old story to those who have known for years that the workmanship which goes into Crown Cans was always of that same standard... just one more example of how Crown Can is serving the Nation.

CROWN CAN COMPANY, PHILADELPHIA • NEW YORK • *Division of Crown Cork & Seal Co.* • *Baltimore, Md.*

★ ★ ★ CROWN CAN ★ ★

BIDS AND AWARDS

Solvay "Award" A "Bid"

In our January issue we erroneously stated that Solvay Sales Corp., New York, received an award for a large quantity of washing soda from the Division of Purchases of the Department of Commerce, Washington, D. C. Instead, Solvay submitted the low bid in a recent opening by the New York Navy Purchasing Office for washing soda crystals.

Dept. of Justice Bids

The following low bids were entered in a recent opening by the Department of Justice, Chillicothe, Ohio, for miscellaneous supplies: Swift & Company's 10 cents for an unspecified quantity of grit soap; Procter & Gamble Distributing Co., 5.83 cents for an unspecified quantity of laundry soap; Hercules Powder Co., 3.39 cents for an unstated amount of soap powder; Procter & Gamble Distributing Co., 11.47 cents for an unstated amount of toilet soap.

Low Cleaner Fluid Bid

R. M. Hollingshead Corp., Camden, N. J., submitted the low bid of 87.3 cents on 2,500 gallons of clear carbon tetrachloride cleaner fluid in 5 gallon cans in a recent opening for miscellaneous supplies of the New York Navy Purchasing Office, New York.

N. Y. Navy Awards

Unity Sanitary Supply Co., New York, and Procter & Gamble Distributing Co., New York, received partial awards for 176,440 pounds of grit and toilet soap, at unspecified prices, in a recent opening by the New York Navy Purchasing office, New York, for miscellaneous supplies. In the same opening it was announced that Colgate-Palmolive-Peet Co., Kirkman & Son Division, Brooklyn, received the award for 1,411,500 pounds of laundry soap in 12-ounce bars at 5.69 cents.

Sanitary Soap Gets Award

Sanitary Soap Company, Paterson, N. J., was awarded a contract for 18,750 gallons of liquid soap to be delivered to the Naval Supply Depot, Bayonne, N. J. in a recent opening of the Navy Bureau of Supplies.

Unity Low On Disinfectant

Low bids of $2.50, $2.50, $2.90, $2.40, and $2.90 were submitted by Unity Sanitary Supply Co., New York, on 150 gallons of disinfectant for whirlpool baths in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York.

P&G Get Navy Award

In a recent opening by the Philadelphia Navy Yard for miscellaneous supplies, Procter & Gamble Distributing Co., Philadelphia, submitted a bid of 9.61 cents for 2,700 pounds of laundry soap chips in 150 pound barrels. The bid was accepted.

Low Auto Soap Bid

Scholler Bros., Philadelphia, were low bidders on an unspecified quantity of automobile soap at 5.6, 4.87 and 4.74 cents in a recent opening of the Post Office Department, Washington, D. C., for miscellaneous supplies.

Low Panama Canal Bids

The following low bids were entered in a recent opening for miscellaneous supplies for the Panama Canal, Washington, D. C.: Clerc Chemical Corp., Newark, N. J., 13 cents a pound for 150,000 pounds salt water soap; Colgate-Palmolive-Peet Co., Jersey City, N. J., in the only bid received, 11.43 a pound for 9,375 pounds of toilet soap; Armour & Co., Chicago, in the only bid received, 5.87 a pound for 37,500 pounds of laundry soap; Cole Laboratories, Long Island City, New York, 9.25 cents a pound for 8,000 pounds of chip soap; Chemical Manufacturing & Distributing Co., Easton, Pa., 3.21 cents a pound for 20,000 pounds soap powder; 1.8 cents a pound for 2,000 pounds floor-scouring compound; and 3.9 cents a pound for 20,000 pounds trisodium phosphate.

Low Polish Cloth Bids

Among the low bids entered in a recent opening by the New York Navy Purchasing Office, New York, for miscellaneous supplies, Glad Rag Products Corp., New York, submitted alternate bids of 6.32, 6.42 and 6.69 cents on 213,000 (18x21") polishing cloths. George Woods, Sons & Co., Philadelphia, entered an alternate bid of 6.69 cents on a quantity of 120,000.

N. Y. Navy Supply Bids

In a recent opening by the New York Navy Purchasing Office, New York, Procter & Gamble Distributing Co., New York, submitted a low bid of 5.95 cents on 100,000 12 ounce bars of ordinary laundry soap. A bid of 6.5 cents was entered by Unity Sanitary Supply Co., New York, on 40,000 bars.

Insect Repellent Bid

National Carbon Co., New York, submitted a bid of 16.25 cents on 500,000 two-ounce bottles of liquid insect repellent in a recent opening for miscellaneous supplies by the New York Navy Purchasing Office, New York. This was the only bid received.

AMA Toilet Soap Awards

Colgate - Palmolive - Peet Co., Jersey City, N. J., and Allen B. Wrisley Distributing Co., Chicago, received awards for 70,250 pounds of toilet soap at 17.382 cents per pound, and 268,250 pounds at 14.86 cents respectively, in a recent opening for miscellaneous supplies by the Agricultural Marketing Administration, Washington, D. C.

GERANIUM IMITATION
EUCALYPTUS OIL
ORANGE OIL SWEET
ROSEMARY OIL SPANISH
GUAIAC-WOOD OIL
EUGENOL U.S.P. "G.L."

LAVENDER IMITATION
URGENT—BUY BONDS
EUCALYPTOL C.P.
DIPHENYL OXIDE
ERIGERON OIL
RHODINOL EXTRA G.L.
SANDALWOOD E.I.

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CLOVE OIL
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REPRESENTATIVES: ST. LOUIS PHILADELPHIA

TRADE MARKS

The following trade-marks were published in the January issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of September 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, fee of ten dollars must accompany each notice of opposition.

Trade Marks

SEA-SOPE—This in bold lower case letters beneath a sea horse design on a small black disc to describe hard and soft water toilet soap. Filed by Sea Products Laboratories, Inc., New York, October 17, 1941. Claims use since November 20, 1934.

REALM—This in bold block letters for glass cleaning preparation, sweeping compound, laundry soap and soap powder. Filed April 24, 1942 by Household Products, Chicago. Claims use since March, 1938.

WOOL FOAM—This in upper and lower case open lettering for washing compound for cleaning sweaters, socks, and woolens. Filed October 14, 1942 by Wool Novelty Co., New York. Claims use since October 8, 1942.

ROYAL SCARLET—This in bold letters within a circle that surround the figure of an old-time English waiter for disinfectants, insecticides, bluing, lye, potash, etc. Filed June 13, 1942 by R. C. Williams & Co., New York. Claims use since April 1, 1942.

STANTEX—This in bold block letters for chemical preparation in liquid form used in finishing textile fibres, yarns, etc. Filed September 11, 1942 by Standard Chemical Products, Hoboken, N. J. Claims use since December, 1933.

TAKE-ALL—This in open script lettering within an oval for a liquid solvent for removing scale and other incrustations from equipment. Filed November 2, 1942 by Garratt-Callahan Co., San Francisco. Claims use since October 22, 1942.

DERLENE—This in block letters for a preparation suitable for treatment of athlete's foot, minor cuts, etc. Filed November 3, 1942 by Specialty Chemical Co., Long Island City, N. Y. Claims use since September 26, 1942.

SOAP-EATER—This in bold letters for washing powder. Filed April 7, 1942 by Soap-Eater Co. of America, Albuquerque, N. M. Claims use since July 1, 1941.

TOPTOX—This in bold block letters for insecticides. Filed October 19, 1942 by Hitox Products, New York. Claims use since September 5, 1942.

POTPOURRI—This in script lettering beneath a potpourri vase and flowers for soap. Filed November 7, 1942 by Prince Matchibelli, Inc., New York. Claims use since September 24, 1942.

MARKEM—This in bold block letters separated by the bow of an ocean liner for chemical solvent compounds used in servicing power equipment, cleaners for engines, etc. Filed April 1, 1942 by Maritime Chemical & Repair Corp., Brooklyn, N. Y. Claims use since June 9, 1941.

H. M. P.—This in fanciful lettering for liquid preparation for use in treating skin infections. Filed November 3, 1942 by Scott Drug Co., Kingstree, S. C. Claims use since April 10, 1929.

———♦———

Trade Marks Granted

398,875. Dry cleaning preparation and a glass cleaner. Filed by Martinus Dyrud, doing business as Dyrud Laboratories, Prairie du Chien, Wisconsin, August 14, 1941. Serial No. 446,230. Published September 22, 1942. Class 4.

398,879. Dry cleaning preparation. Filed by Thorton Laundry & Dry Cleaning Co., Youngstown, Ohio, October 24, 1941. Serial 448,087. Published February 3, 1942. Class 4.

399,170. Face cream. Filed by Elizabeth Arden Sales Co., New York, filed May 13, 1941. Serial No. 443,528. Published October 6, 1942. Class 6.

399,229. Cleaner and polish for aluminum and aluminum alloys. Filed by O-Cedar of Canada, Ltd., Toronto, Ontario, Canada, July 24, 1942. Serial 454,479. Published October 13, 1942. Class 4.

399,244. Germicidal compositions. Filed by Wallace & Tiernan Products, Inc., Belleville, N. J., August 7, 1942. Serial No. 454,789. Published October 13, 1942. Class 6.

399,245. Chemical for cleansing drains, sinks and washing bowls. Filed by the Drackett Co., Cincinnati, Ohio, August 8, 1942. Serial No. 454,799. Published October 13, 1942. Class 6.

399,249. Soaps and shaving creams. Filed by Firmenich & Co., New York, N. Y., August 13, 1942. Serial No. 454,887. Published October 13, 1942. Class 4.

399,250. Sachets, bath salts, lipsticks, perfumes, toilet waters, face powders, etc. Filed by Firmenich & Co., New York, N. Y., August 13, 1942. Serial No. 454,888. Published October 13, 1942. Class 6.

399,083. Chemical cleaning compound adaptable for dissolving and removing foreign matter from metal surfaces prior to processing in the course of manufacturing and other industrial operations. Filed by Turco Products, Inc., Los Angeles, California, July 16, 1942. Serial No. 445,400. Published October 6, 1942. Class 4.

399,087. Paint removing preparation. Filed by Turco Products, Inc., Los Angeles, California, November 12, 1941. Serial No. 448,592. Published October 6, 1942. Class 16.

399,103. Wallpaper cleaner, glass cleaner, shoe polish, laundry soap, soap flakes, shoe whitener, etc. Filed by Plee-Zing, Inc., Chicago, Illinois, May 23, 1942. Serial No. 453,211. Published October 6, 1942. Class 4.

BARRETT CHEMICALS

FOR THE SOAP AND DISINFECTANT INDUSTRIES

America's all-out Victory Program requires ever increasing quantities of coal-tar chemicals for which Barrett is a key source of supply. All Barrett's facilities and 88 years of manufacturing experience are being utilized to keep production at top limits. But because so many Barrett Chemicals are vital to winning the war, we ask the indulgence of our customers in civilian industries if deliveries are delayed.

U. S. P. CRESOL
CRESYLIC ACID
U. S. P. PHENOL
TAR ACID OIL
NAPHTHALENE
PARA CHLOR META CRESOL
CHLOR XYLENOL
PYRIDINE
XYLOL
CYCLOHEXANOL
METHYLCYCLOHEXANOL
ANHYDROUS AMMONIA

THE BARRETT DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK

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Soaps, Shaving Creams and Shampoos

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Executive Offices and Laboratories
CROTON-ON-HUDSON, N. Y.

COMPAGNIE PARENTO, LTD.
TORONTO, ONT. CANADA

PHILADELPHIA
CHICAGO
SAN FRANCISCO

399,112. Liquid wax polish for finishing and coating furniture and interior and exterior coated finished surfaces. Filed by S. C. Johnson & Son, Inc., Racine, Wisconsin, July 2, 1942. Serial No. 454,009. Published October 6, 1942. Class 16.

399,113. Liquid wax polish. Filed by S. C. Johnson & Son, Inc., Racine, Wisconsin, July 2, 1942. Serial No. 454,010. Published September 29, 1942. Class 16.

399,147. Chemical compounds used in the dyeing and bleaching of leather and in the tanning of hides. Filed by Rohm & Haas, Philadelphia, Pa., August 11, 1942. Serial No. 454,857. Published October 13, 1942. Class 6.

Soap Industry Meets

(*From Page* 23)

Armour & Co., Chicago, L. J. Oppenheimer of West Disinfecting Co., L. I. City, N. Y., and William B. Eddy of Rochester Germicide Co., Rochester, N. Y. Sectional representatives will be named in the various districts in an attempt to secure the widest possible membership among the entire group of potash soap manufacturers.

A report on the current status of the Fats Salvage Campaign was presented at the afternoon session by Roscoe Edlund, association manager. Directors of the association, he indicated, had voted unanimously to recommend that the "Save Waste Kitchen Fats" campaign be extended. Collections are now at the rate of sixty to seventy million pounds per year, this supplement to slumping soap fat stocks now being more important than ever. He advised that of the 72 campaigns having the support of the office of War Information, the fats salvage campaign is third on the list, giving an indication of the importance attached to it by the government. The reduced meat consumption has of course been an unfavorable factor to overcome in recent months, but in spite of this, December collections were reported at an increase of 10 per cent over November totals.

Future advertising support of the campaign is essential, said Mr. Edlund, and should be thought of as a continuing necessity. Each soap manufacturer is being asked to contribute to the fund on the basis of monthly contributions of 1/30 of one per cent of the dollar value of 1941 sales. The present goal is recovery of 200,000,000 lbs. of waste fat per year, which will produce some 20,000,000 lbs. of glycerine. The goal for each individual family is "one tablespoonful of fat per day" which would equal a pound a month. Such an average collection figure would put the country well ahead of the 200,000,000 lb. goal.

THE general industry meeting was followed by a short business session of the Association of American Soap and Glycerine Manufacturers. A new board of directors for the coming year was elected as follows:

F. A. Countway, Lever Bros. Co., Cambridge, Mass.; N. S. Dahl, John T. Stanley Co., New York; R. R. Deupree, Procter & Gamble Co., Cincinnati; G. A. Eastwood, Armour & Co., Chicago; S. S. Fels, Fels & Co., Philadelphia; J. C. Fitzpatrick, Fitzpatrick Bros. Co., Chicago; G. R. Fulton, Beach Soap Co., Lawrence, Mass.; A. Haas, Newell-Gutradt Co., San Francisco; E. B. Hurlburt, J. B. Williams Co., Glastonbury, Conn.; E. H. Little, Colgate-Palmolive-Peet Co., Jersey City; F. H. Merrill, Los Angeles Soap Co., Los Angeles; E. A. Moss, Swift & Co., Chicago; J. D. Nelson, Andrew Jergens Co., Cincinnati; G. A. Wrisley, Allen B. Wrisley Co., Chicago; C. F. Young, Davies-Young Soap Co., Dayton.

These directors met subsequently and elected the following slate of officers of the association for the coming year: president, E. H. Little; vice-president for Eastern States, F. A. Countway; vice-president for Central States, D. M. Flick; vice-president for Western States, F. H. Merrill; treasurer, N. S. Dahl; assistant treasurer, A. R. Robson; secretary, the manager of the association, R. C. Edlund.

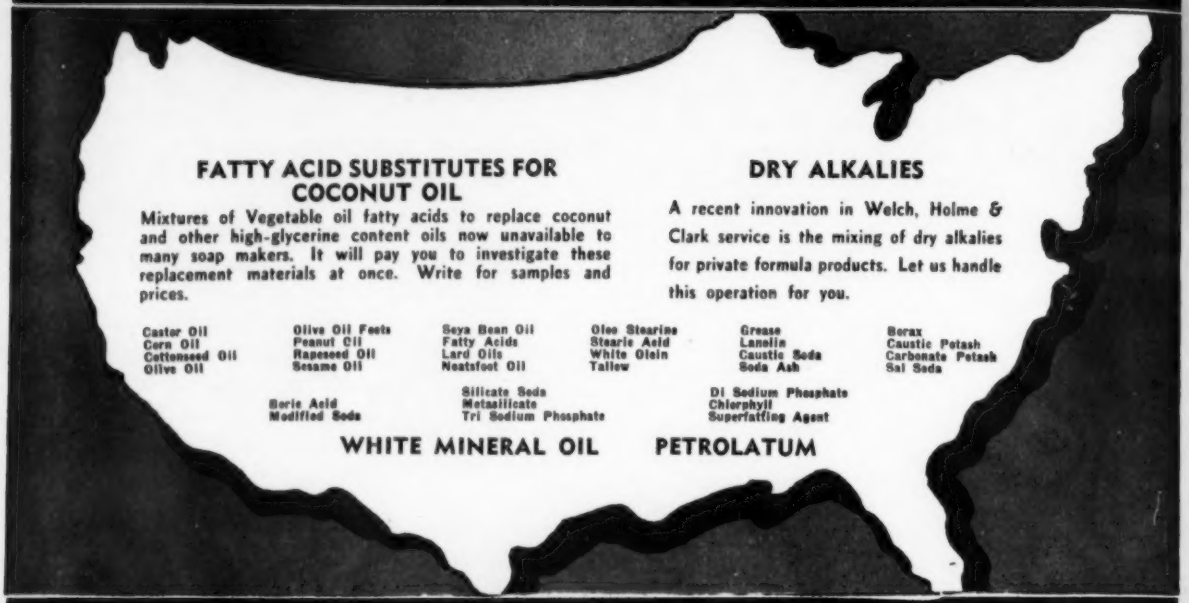
BIMS Hold Annual Dinner

BIMS of New York held their annual dinner at the Hotel Lafayette, New York, on January 21 with an attendance of 140 members and guests. In addition to five Victory Bonds given away by the BIMS as door prizes, 26 bonds were distributed as prizes in a series of sweepstakes drawings. Martin Schultes of Hewitt Soap acted as combination chairman and Santa Claus in handing out the bonds. Charles Darr of Harriet Hubbard Ayer assisted in the bond distribution and also sang several numbers. Double bond winners included Karl "Lucky" Voss of Karl Voss Corp. and Arthur J. Sloss of American Sponge & Chamois Co.

Winners of door prize bonds were F. S. Ammerman of Odorbase Mfg. Co.; Frank W. Green (alias Brown, Black and Blue) of National Aniline; M. B. Price of M. B. Price Associates; F. N. Nickolson of Richardson-Taylor-Globe Corp.; and Fred L. Butz of White Metal Mfg. Other winners included H. T. Georgi of Houbigant; A. F. Zicht of H. S. Benedikt, Inc.; Dudley Shaw of Allen B. Wrisley; N. Bonelli of Bonelli Drug of Puerto Rico; Clif Marsh of Menley & James, Ltd.; H. Broeder of Harry Broeder Co.; Dex Neal of Hilton-Davis Chemical Co.; P. L. Forsman of C. H. Forsman & Co.; J. E. Gabrielsen of Allied Products; Mike Healy of Naugatuck Aromatics; Charles Homan of Dodge & Olcott; Fred Buehler of Lueders; C. M. Macauley of Pro-phylac-tic Brush; Frank Mahr of Blake Mfg. Co.; Frank Graham of De Vilbiss; George Sands of Elizabeth Arden; James Garvey of George Schmitt & Co.

Chairman Schultes announced that the BIMS of N. Y. would hold two golf tournaments next summer at courses close to railroad stations, one in late June and the other in September, with details announced later. The 1944 annual dinner of the BIMS has been scheduled for Jan. 19, 1944.

RAW MATERIALS FOR THE SOAP INDUSTRY



FATTY ACID SUBSTITUTES FOR COCONUT OIL

Mixtures of Vegetable oil fatty acids to replace coconut and other high-glycerine content oils now unavailable to many soap makers. It will pay you to investigate these replacement materials at once. Write for samples and prices.

DRY ALKALIES

A recent innovation in Welch, Holme & Clark service is the mixing of dry alkalies for private formula products. Let us handle this operation for you.

Castor Oil
Corn Oil
Cottonseed Oil
Olive Oil

Olive Oil Foots
Peanut Oil
Rapeseed Oil
Sesame Oil

Soya Bean Oil
Fatty Acids
Lard Oils
Neatsfoot Oil

Oleo Stearine
Stearic Acid
White Olein
Tallow

Grease
Lanolin
Caustic Soda
Soda Ash

Borax
Caustic Potash
Carbonate Potash
Sal Soda

Boric Acid
Modified Soda

Silicate Soda
Metasilicate
Tri Sodium Phosphate

Di Sodium Phosphate
Chlorophyll
Superfatting Agent

WHITE MINERAL OIL **PETROLATUM**

WELCH, HOLME & CLARK CO., Inc.

563 GREENWICH STREET ESTABLISHED 1838 NEW YORK CITY

FIVE TIMES as much soap.

Big saving in production and overhead costs.

Glycerine-Free

FATTY ACIDS

SAPONIFICATION TIME IS ONLY 3 TO 4 HOURS CYCLE compared with the usual approximate 36 hour cycle necessary for whole oils.

THE SAME AMOUNT OF STEAM, LABOR AND OVERHEAD will suffice for five times your present production, thus lowering unit costs.

NO CHANGE IN EQUIPMENT IS NECESSARY and all salting out and bleaching operations can be eliminated.

ABSOLUTE CONTROL OF QUALITY AND UNIFORMITY can be maintained with complete saponification, no shrinkage, and less possibility of turbidity.

Palm Oil F.A.
Tallow Oil F.A.
Corn Oil F.A.
Soya Oil F.A.
Cocoanut Oil F.A. Replacements

WOBURN

DEGREASING CO. OF N. J. HARRISON, N. J.

†Helioline
†Distoline*
Peanut Oil F.A.
Cottonseed Oil F.A.
High Titre Cottonseed Oil F.A.

† Vegetable Oleic Acid * Reg. U. S. Pat. Office

RAW MATERIAL MARKETS

As of February 1, 1943

THE listlessness born of lack of trading which has been a recent characteristic of all raw material markets continues. Reports throughout the month just closed emphasize all the dearth of trading and the scarcity of offerings, particularly in vegetable oils. What activity there has been was mainly in the nature of the filling of back orders.

Washington reports an expected rise of 300,000,000 pounds in oils and fats produced from domestic materials in 1943. At the same time it was made known that five subcommittees have been appointed to study various phases of the cottonseed and peanut oil mill industry. Another report was issued to the effect that nearly 60,000,000 bushels of the last soybean crop had reached the processors by January 1, 1943. Around a hundred million bushels were still in the hands of the farmers, of which about 17,000,000 bushels will be retained for seed and food.

A further increase in the price of linseed oil following the rise in Northwest flaxseed was viewed as a change of importance in an otherwise static market price structure. Reasons assigned to the upward trend in flaxseed prices were: the active demand for cash seed, speculative buying and the expectation of increased demand from channels not normally using linseed oil.

Tallow was again back in the news with the announcement by the OPA that geographical price differentials on tallows and greases were to be abandoned effective January 30, and thereafter nation-wide dollar-and-cents ceilings would apply to each grade. This, and other changes, including changes in specifications and the addition of two new grades: Naptha Extracted Bone Tallow, and Garbage Grease, are covered by Amendment 22 to OPA Schedule 53. Maximums are fixed for the two new grades on the basis of their normal differential from the other specified grades.

Federally inspected hog slaughter for 1942 of 53,986,881 head passed the previous record of 1923 by nearly 1 per cent, was 16 per cent greater than in 1941, and 31 per cent larger than the five-year average of 41,222,-799 head, reports the New York Produce Exchange market review.

Production of fats and oils from domestic materials in the 1942 crop year is estimated at 11.7 billion pounds compared with 9.6 billion pounds a year earlier, according to a recent issue of Fats and Oils Situation of the Department of Agriculture. Goals for 1943 call for increased acreages of flaxseed and peanuts, and a soybean acreage only slightly less than the record acreage in 1942. The cotton goal has been reduced, however, to permit the greater utilization of resources for more essential crops such as peanuts and feed grains. With normal yields, production of vegetable oils from domestic materials may total 4.3 billion pounds in the current year. There is a continuing upward trend in lard, tallow and grease production. Supplies of fats and oils for 1943, including production, imports and stocks on hand January 1, 1943, will probably total about 14.5 billion pounds. Military and export requirements are estimated at 2.6 billion pounds, and civilian use under the manufacturer's limitation order is estimated at 9.2 billion pounds. This will leave only 2.7 billion pounds for stock at the close of 1943 as compared with a goal established by the Food Requirements Committee totaling 3.5 billion pounds, including contingent reserves. To meet this objective, direct consumer rationing of food fats and oils will probably be necessary.

The report of the sinking of a shipment of between 650 and 700 tons of carnauba wax in the Atlantic as the result of enemy action was published recently. This quantity, estimated to be about one-tenth of a year's supply, has had a very depressing effect on the market, especially in view of current shortages. Reported Brazilian price advances were stimulated by the news of the sinking, is the opinion in reliably informed quarters here. A large shipment, reported to be 300 tons, of cubé root was also lost by submarine action in the South Atlantic.

While trade in aromatic chemicals and essential oils continues good, the price structure shows little tendency to fluctuate. Securing supplies from potentially rich Madagascar has not gotten beyond the talking stage, and little hope for early relief from this source is held out.

Soap Sales Highest in '42

Soap sales for 1942 reached a total value of $365,220,197, the largest figure for any year since reports were first issued by the Soap Association eight years ago. The 1942 report is based on figures of 75 manufacturers, believed to produce about nine-tenths of all U.S. soap production. It reveals that total 1942 poundage was less than for 1941, although dollar volume was greater. Fourth quarter 1942 sales were reported as $85,855,-848, 9.3% less than the figure for the third quarter of 1942, but 22.1% higher than the corresponding '41 quarter.

So critical was this material that for a time its scarcity amounted to almost total absence of supplies for America and her Allies. The cessation of imports from Central Europe sent prices skyrocketing and industries dependent upon this chemical had a very tough time.

America is happily independent of foreign sources for her supplies of Caustic Potash. From inexhaustible deposits in California and New Mexico come ample supplies of Potash Salts, from which are produced Caustic Potash and Carbonate of Potash.

ISCO Caustic Potash

(88-92% KOH)
is available for prompt shipment from spot stocks at New York and our branches, in the following forms:
SOLID • FLAKE
GRANULAR • BROKEN
WALNUT
LIQUID 45%

ISCO Carbonate of Potash

(K_2CO_3)
CALCINED, 98-100%
HYDRATED 83-85%
LIQUID 47-48%

ISCO WAXES and Good Substitutes

CANDELILLA—Crude and Refined
CARNAUBA Substitute M. P. 181½-183° F.
BEESWAX Substitute M. P. 143-149° F.
JAPAN WAX Substitute M. P. 56-57° C.
OURICURY WAX—Single and Double Refined

and other Soapmaker's Chemicals, etc.

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INNIS, SPEIDEN & COMPANY
Established 1816
117 Liberty Street . . . . . NEW YORK
CHICAGO • CLEVELAND • CINCINNATI
BOSTON • PHILADELPHIA • GLOVERSVILLE, N. Y.

KRANICH

Shampoo

Liquid Olive Oil Soap

Liquid Vegetable Oil Soap

40% and 30% (Only)

To replace coconut oil soaps

•

Powdered Soap

U. S. P. Castile (Only)

•

Potash Soaps

Soft Potash 40%

Hard Potash 70%

U.S.P. XI Green

•

Scrub Soaps

Plain, Pine, Sassafras

KRANICH SOAP COMPANY

55 Richards St. Brooklyn, N. Y.

SOAPS

RAW MATERIAL PRICES

(As of February 1, 1943)

Minimum Prices are for car lots and large quantities. Price range represents variation in quotations from different suppliers and for varying quantities.

Chemicals

Acetone, C. P., drums	lb.	$ .08½	$ .09
Acid, Boric, bbls., 99½%	ton	109.00	131.00
Cresylic, drums	gal.	.81	.83
Low boiling grade	gal.	.81	.83
Muriatic, C. P., carboys	lb.	.06½	—
Oxalic, bbls.	lb.	.11¼	.12½
Alcohol, Ethyl, drums	gal.	11.99	12.05½
Complete Denat., SD1, dms., ex.	gal.	.64	.69
Alum. Potash lump, bbls.	lb.	.04½	—
Ammonia Water, 26°, drums	lb.	.02¼	.02½
Ammonium Carbonate, tech., drums	lb.	.08¼	.09¼
Bentonite	ton	25.00	51.00
Bleaching Powder, drums	100 lb.	2.50	3.60
Borax, pd., bbls., bags	ton	45.00	71.00
Carbon Tetrachloride, car lots	gal.	.73	1.17
L. C. L.	gal.	.80	1.27
Cresol, U.S.P., drums	lb.	.10¾	.11¼
Cresote Oil	gal.	.141	.15½
Feldspar, works	ton	30.00	35.00
Formaldehyde, bbls.	lb.	.05½	.06
Fullers Earth	ton	8.50	15.00
Glycerine, C.P., drums	lb.	.18¾	.19¼
Dynamite, drums	lb.	.18¼	.18¾
Saponification, drums	lb.	.12¾	.14¾
Soap lye, drums	lb.	.11½	—
Lanolin, U.S.P., hydrous, drums	lb.	.29	.32
Anhydrous, drums	lb.	.30	.33
Lime, live, bbls.	ton	6.25	16.00
Mercury Bichloride, drums	lb.	2.24	2.39
Naphthalene, ref. flakes, bbls.	lb.	.08	.08½
Orthodichlorbenzene	lb.	.06	.08½
Paradichlorbenzene, drums	lb.	.11	.15
Petrolatum, bbls. (as to color)	lb.	.03⅜	.07¼
Phenol (Carbolic Acid) drums	lb.	.10½	.11¼
Pine Oil, drums	gal.	.55	—
Potash, Caustic, solid	lb.	.06¼	.06¾
Flake, 88-92%	lb.	.07	.07½
Liquid, 45% basis	lb.	.03¼	.03½
Potassium Carbonate, solid	lb.	.06½	.06¾
Liquid	lb.	.03	.03½
Pumice Stone, coarse	lb.	.04¼	.05
Rosins (net. wt., ex dock, New York)—			
Grade D to H	100 lb.	3.60	4.13
Grade I to N	100 lb.	4.25	4.48
Grade WG to X	100 lb.	3.60	4.65
Rotten Stone, dom., bags	lb.	.0128	.019
Silica	ton	17.00	27.00
Soaps—			
Tallow Chip, 88%	lb.	.11	.11⅝
Powder, 92%	lb.	.11⅝	.12
Powdered, White Neutral	lb.	.25½	.42
Olive Oil Paste	lb.	.40	—
Shampoo Base	lb.	.18	.20
Liquid Concentrate, 30-32%	gal.	.75	.79
Soda Ash, cont., wks., bags, bbls.	100 lb.	1.05	1.45
Car lots, in bulk	100 lb.	.90	—
Soda Caustic, cont., wks., solid	100 lb.	2.30	3.15
Flake	100 lb.	2.95	3.55
Liquid, tanks, 47-49%	100 lb.	1.92½	1.95
Soda Sal., bbls.	100 lb.	1.20	1.40
Sodium Chloride (Salt)	ton	14.20	18.00
Sodium Fluoride, bbls.	lb.	.08	.08½
Sodium Bisulfate	lb.	2.25	2.50
Sodium Metasilicate, anhyd.	100 lb.	4.00	5.30
Granulated	100 lb.	2.50	3.55
Sodium Pyrophosphate	100 lb.	5.28	6.80
Sodium Silicate, 40 deg., drum	100 lb.	.80	1.20
Drums, 52 deg. wks	100 lb.	1.40	1.80
Tar Acid Oils, 15-25%	gal.	.27½	.33½
Triethanolamine	lb.	.18	.20
Trisodium Phosphate, bags, bbls.	100 lb.	2.70	4.15

Oils — Fats — Greases

Babassu, tanks, futures	lb.	.1110	Nom.
Castor, No. 1, bbls.	lb.	.15¼	.16
No. 3, bbls.	lb.	.13¾	.14¼
Coconut (without excise tax)			
Manila, tanks, N. Y.	lb.	No Prices	
Tanks, Pacific Coast, futures	lb.	No Prices	
Copra, bulk, coast	lb.	No Prices	
Corn, tanks, West	lb.	.12¾	.15½
Cottonseed, crude, tanks, mill	lb.	.12¾	—
PSY, futures	lb.	.13⅞	.14⅛
Fatty Acids—			
Corn Oil, tanks, Chicago	lb.	.14½	.15
Coconut Oil, tanks, Twitchell, Chi.	lb.	.18½	.19
Cotton Oil, tanks, Chicago	lb.	.14	.14½
Settled soap stock, Chicago	lb.	.03⅞	.04
Boiled soap stock, 65%, Chi.	lb.	.04⅞	.05
Foots, 50%, Chicago	lb.	.03½	.03¾
Castor Oil, split, tanks, N. Y.	lb.	.20¾	.21¼
Linseed Oil, split, tanks, N. Y.	lb.	.18½	—
Distilled	lb.	.21	.21½
Myristic acid, distilled, tanks, N.Y.	lb.	.19	.19½
Palm Oil, white tanks, N. Y.	lb.	No Prices	
Single distilled	lb.	No Prices	
Soybean Oil, split, tanks, N. Y.	lb.	.10	—
Distilled	lb.	.15	—
Red Oils, bbls., dist. or sapon	lb.	.11⅞	—
Tanks	lb.	.11¼	—
Stearic Acid, saponif.			
Double pressed	lb.	.14	—
Triple pressed	lb.	.17	—
Greases, choice white, tanks	lb.	.08⅞	—
Yellow	lb.	.08⅝	—
Lard, city, tubs	lb.	.138	—
Linseed, raw, bbl.	lb.	.1340	.1360
Tanks, raw	lb.	.1300	.1320
Olive, denatured, bbls., N. Y.	gal.	—	—
Foots, bbls., N. Y.	lb.	.19	Nom.
Palm, Sumatra, cif. New York, tanks	lb.	No Prices	
African, tanks, ex. ship	lb.	.08¼	Nom.
Palm, kernel	lb.	No Prices	
Peanut, crude, tanks, mill	lb.	.13	Nom.
Soya Bean, domestic, tanks, crude	lb.	.11¾	Nom.
Stearin, oleo, bbls.	lb.	.1061	—
Tallow, special, f.o.b. N. Y.	lb.	.08½	—
City, ex. loose, f.o.b. N. Y.	lb.	.08⅝	—
Teaseed Oil, crude	lb.	No Prices	

A PUMICE TO MEET EVERY NEED

Not until Valencia — the standard of American Pumice— was discovered at Grants, New Mexico, was it thought that a domestic pumice could match the quality of imported Italian Pumice. This inexhaustible deposit at Grants is true pumice stone and not a volcanic ash. It is physically and chemically equal in every respect to the now unobtainable Italian Pumice. • The Valencia plant's output of grades for every need is rigidly under control for particle size, purity, weight and color.

Check this table comparing Valencia with the highest grade of imported Italian Pumice. See for yourself that Valencia is truly the standard of American Pumice.

	American Pulverized Per Cent	Italian Select Per Cent
Silica	72.90	73.24
Alumina	11.28	10.61
Iron Oxide	.86	1.57
Titanium Oxide	.06	.10
Calcium Oxide	.80	1.10
Magnesium Oxide	.36	.40
Soda	3.64	3.03
Potash	4.38	5.58
Sulphuric Anhydride	.03	.05
Loss on ignition	5.20	4.04

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CAKE, FLAKE AND POWDERED
TECHNICAL AND U.S.P. GRADES

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WHITE PALM OIL FATTY ACIDS

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REFINED TALLOW FATTY ACIDS

WHITE OLEINE U.S.P. (DOUBLE-DISTILLED)

OLEIC ACID (RED OIL)

We Recover All Glycerine for War Purposes

Manufacturers Since 1837

A. GROSS & CO.

295 Madison Avenue, New York, N. Y.

Representatives in Various Cities

(As of February 1, 1943)

Essential Oils

Almond, Bitter, Artificial	lb.	$3.50	$3.75
Bitter, F.F.P.A.	lb.	4.75	5.00
Sweet, cans	lb.	1.90	2.00
Anise, cans, U.S.P.	lb.	3.25	3.60
Bay, 55-66% phenols, cans	lb.	1.60	2.10
Bergamot, coppers	lb.	32.00	Nom.
Artificial	lb.	2.25	6.50
Birch Tar, rect., cans	lb.	—	—
Crude, cans	lb.	—	—
Bois de Rose, Brazilian	lb.	4.75	5.00
Cayenne	lb.	—	—
Cade (juniper tar), drums	lb.	1.50	Nom.
Cajeput, tech., drums	lb.	—	2.10
Calamus, cans	lb.	—	—
Camphor, Sassy, drums	lb.	—	—
White, drums	lb.	—	—
Cananga, native, cans	lb.	17.00	17.50
Rectified, cans	lb.	18.25	20.00
Cassia, Redistilled, U.S.P.	lb.	10.50	12.00
Cedar Leaf, cans	lb.	1.05	1.35
Cedar Wood, light, drums	lb.	.75	1.00
Citronella, Java, drums	lb.	—	—
Citronella, Ceylon, drums	lb.	1.20	1.40
Clove, U.S.P., cans	lb.	1.80	2.00
Eucalyptus, Austl., U.S.P., cans	lb.	1.15	1.40
Fennel, sweet, cans	lb.	3.60	—
Geranium, African, cans	lb.	30.00	Nom.
Bourbon, cans	lb.	24.00	—
Turkish (Palmarosa)	lb.	5.25	5.50
Hemlock, cans	lb.	1.20	1.25
Lavender, 30-32% ester, cans	lb.	9.00	9.25
Spike, Spanish, cans	lb.	4.25	4.35
Lemon, Ital., U.S.P.	lb.	—	Nom.
Cal.	lb.	3.00	—
Lemongrass, native, cans	lb.	2.75	3.25
Linaloe, Mex., cases	lb.	4.25	—
Nutmeg, U.S.P., cans	lb.	5.25	5.50
Orange, Sweet, W. Ind., cans	lb.	6.00	6.25
Italian cop	lb.	8.00	Nom.
Distilled	lb.	1.00	—
California, expressed	lb.	1.65	—
Origanum, cans, tech.	lb.	2.75	2.90
Patchouli	lb.	8.00	8.50
Pennyroyal, dom.	lb.	—	—
Imported	lb.	3.15	3.25
Peppermint, nat., cans	lb.	5.50	5.75
Redis., U.S.P., cans	lb.	6.00	6.25
Petitgrain, S. A., cans	lb.	1.95	2.20
Pine Needle, Siberian	lb.	3.00	3.25
Rosemary, Spanish, cans	lb.	2.25	2.30
drums	lb.	2.10	2.15
Sandalwood, dom., dist., U.S.P.	lb.	5.85	6.25
Sassafras, U.S.P.	lb.	2.00	2.20
Artificial, drums	lb.	2.00	—
Spearmint, U.S.P.	lb.	—	3.15
Thyme, red, N. F.	lb.	3.25	3.50
White, N. F.	lb.	3.50	3.75
Vetiver, Java	lb.	42.00	50.00
Ylang Ylang, Bourbon	lb.	—	—

Aromatic Chemicals

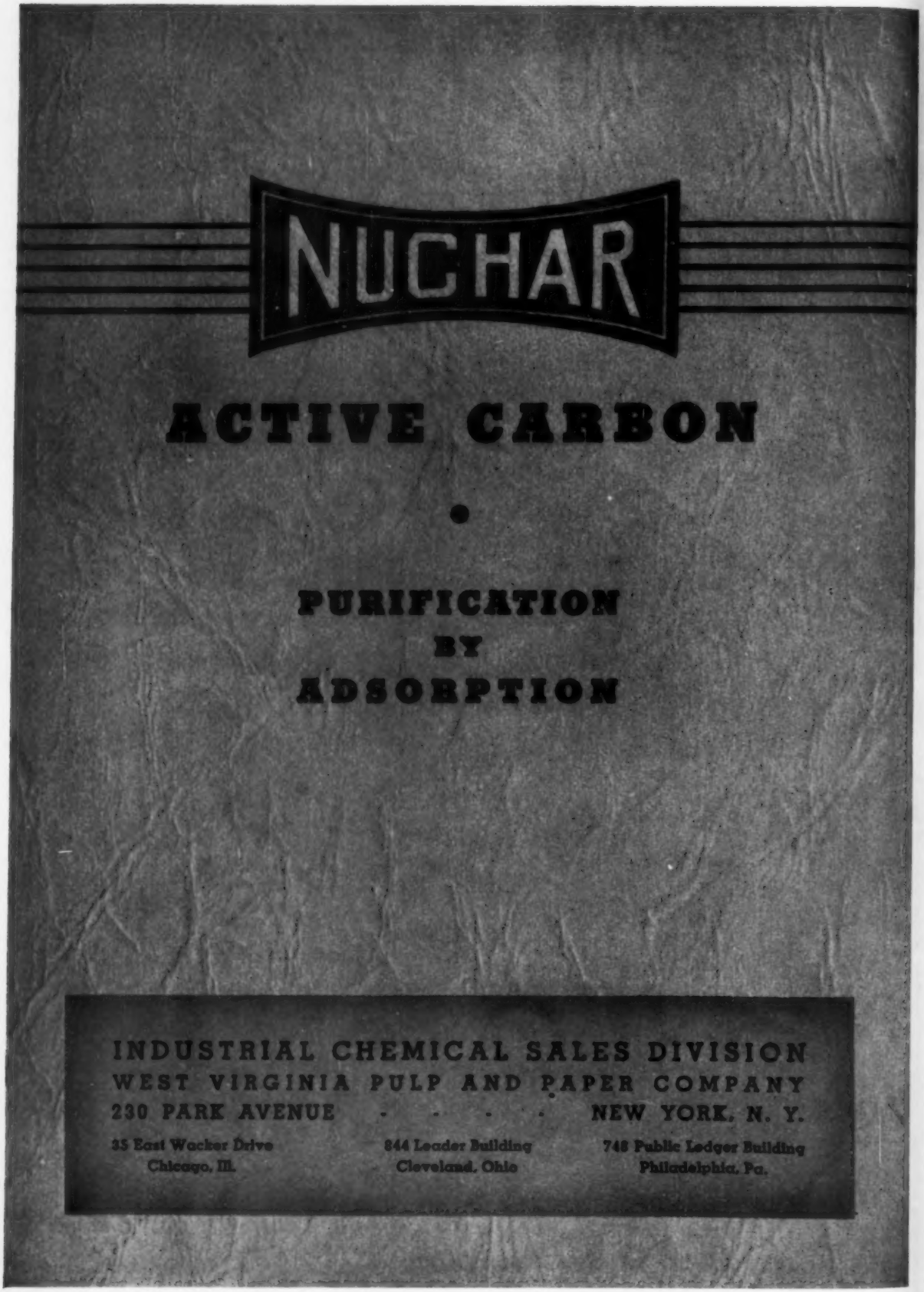
Aceotphenone, C. P.	lb.	$1.55	$1.60
Amyl Cinnamic Aldehyde	lb.	—	—
Anethol	lb.	2.25	2.40
Benzaldehyde, tech.	lb.	.45	.55
N. F. VI	lb.	.85	2.75
Benzyl, Acetate	lb.	.59	Nom.
Alcohol	lb.	.63	.75
Citral	lb.	5.50	7.00
Citronellal	lb.	2.75	3.25
Citronellol	lb.	7.00	7.25
Citronellyl Acetate	lb.	—	—
Coumarin	lb.	2.75	3.25
Diphenyl oxide	lb.	.43	.50
Eucalyptol, U.S.P.	lb.	2.25	2.65
Eugenol, U.S.P.	lb.	2.75	2.80
Geraniol, Soap	lb.	1.10	1.50
Other grades	lb.	1.50	3.50
Geranyl Acetate	lb.	—	—
Heliotropin	lb.	5.25	Nom.
Hydroxycitronellal	lb.	7.25	8.75
Indol, C. P.	lb.	28.00	30.00
Ionone	lb.	2.75	3.95
Isoborneol	lb.	.81	.90
Iso-bornyl acetate	lb.	.80	.95
Iso-Eugenol	lb.	—	—
Linolool	lb.	6.75	7.00
Linalyl Acetate	lb.	5.50	7.25
Menthol, natural	lb.	—	—
Synthetic, U.S.P.	lb.	13.00	14.00
Methyl Aceophenone	lb.	—	—
Anthranilate	lb.	2.20	2.35
Paracresol	lb.	—	—
Salicylate, U.S.P.	lb.	.35	.40
Musk Ambrette	lb.	4.00	4.45
Ketone	lb.	4.15	4.60
Xylol	lb.	1.40	1.80
Phenylacetaldehyde	lb.	5.00	6.00
Phenylacetic Acid	lb.	1.85	1.90
Phenylethyl Alcohol	lb.	2.10	2.50
Rhodinol	lb.	—	—
Safrol	lb.	2.25	2.45
Terpineol, C.P., dra.	lb.	.40	—
Cans	lb.	.43	—
Terpinyl Acetate, 25 lb. cans	lb.	.87	—
Thymol, U.S.P.	lb.	3.00	Nom.
Vanillin, U.S.P.	lb.	2.35	2.75
Yara Yara	lb.	1.80	1.85

Insecticide Materials

Insect Powder, bbls.	lb.	.29	.30
Pyrethrum Extract			
20 to 1	gal.	5.90	6.00
30 to 1	gal.	8.85	9.00
Derris, powder—4%	lb.	.31	—
Derris, powder—5%	lb.	.35	—
Cube, powder—4%	lb.	.31	—
Cube, powder—5%	lb.	.35	—
Squill, red, dried	lb.	.85	1.00

Waxes

Bees, white	lb.	.57	.63
African, bgs.	lb.	.3750	—
Refined, yel.	lb.	.5250	.6050
Candelilla, bgs. (crude)	lb.	.38	—
Carnauba, No. 1, yellow	lb.	.8325	.8925
No. 2, N. C.	lb.	.7575	.8175
No. 3, Chalky	lb.	.7125	.7725
Ceresin, yellow	lb.	.13½	.18
Montan Wax, bags	lb.	.45	.46
Paraffin, ref., 125-130	lb.	.0520	.0560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PRODUCTION

A section of SOAP devoted to the technology of oils, fats, and soaps published prior to Jan. 1, 1932, as a separate magazine under the title, Oil & Fat Industries.

Soap Flake Equipment

MODERN soap flake equipment converts soap continuously into flakes. In the usual procedure, soap is pumped directly from the kettle and run in a thin film onto rollers where it is successively heated by steam from within the roller, which evaporates some of the water, and is then chilled. The plastic film of soap is peeled off the roller by suitable knives, and falls on a moving endless band which passes through the full length of the drying chamber. The flakes reaching the roller at the end where the band turns downward, fall on to a second band moving in the opposite direction, and similarly again on to a third band, which finally leads them out of the machine after exposing them for a minute or two to a draught of cold air to cool them and make them firm.

The idea of employing a succession of bands is to reduce the length of the drying chamber, but the principle is not good, inasmuch as the flakes on the second band move from the atmosphere at the far end of the chamber, where it should be driest, back to the inlet end, just below the place where the flakes, beginning their journey, are giving off their maximum moisture rapidly. A large number of factors affect the output of flakes from such a machine, and to some extent the quality of the flakes.

Design of an efficient and economical soap flaking machine is a very difficult matter and one that requires a thorough knowledge of the numerous problems connected with drying,—as well as engineering skill. It is not surprising that some makes have turned out to be more satisfactory than others. In considering flaking equipment, the soap maker should satisfy himself on several points. Output should be guaranteed as so much per hour at a definite fatty acid content. A difference say, of 2 per cent in fatty acids may affect the output of any machine much more than would be normally anticipated, i.e. probably well over 10 per cent.

It is very essential that the machine should be as nearly as possible automatic. Plants that require the constant attention of a skilled person to adjust valves, examine the condition of the flakes, etc., are likely to prove too expensive. Proper provision should also be made for the removal of powder and flakes that fall to the floor, and for the cleaning of bands and other moving parts, preparatory to starting the flaker on another type of soap. Fuel and current consumption should be considered, but as a rule are not heavy. Small machines of the same general design as larger ones are not likely to be as good a proposition as an experimental small machine designed as such. N. G. Weir. *Soap, Perfumery & Cosmetics* **15**, 552, 558 (1942).

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Structure of Detergents

The properties of a surface-active compound are to a certain extent determined by the location in the molecule of the water-attracting or hydrophylic group. Generally speaking, compounds with strong detergent properties have the water-attracting group at one end of the molecule, with the water-repelling or hydrophobic group strung out as a long chain to the other end of the molecule. Simple examples of this type are soaps, fatty alcohol sulfates, polyglycol condensates, alkylol amine condensates, etc. Usually compounds which are good detergents are also good foaming agents.

With respect to materials which have an exceptionally high wetting-out ability, there is a great deal of evidence to support the view that the water-attracting group should be located somewhere in the middle of the molecule. This type of surface-active agent might be likened to a "V" with the water-attracting group at the joining point, and two water-repelling groups streaming out from it. Typical examples are the secondary alcohol sulfates, alkylated naphthalene sulfonates, sulfated fatty esters, sulfo-

succinic acid esters, etc. These materials have relatively little detergent action and less tendency to foam than those described above. Some materials combine good wetting action with detergency.

Examples of surface-active materials which do not ionize in solution are the condensation products made from fatty acids and fatty alcohols, usually with ethylene oxide or its polymers. Since these compounds do not form salts they are inert in hard water, in gum solutions, and resistant to similar precipitating influences. The various types of surface-active agents find many special applications. *Textile World* 92, No. 12, 96, 98 (1942).

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Soap in Skin Injuries

More than 11 per cent, and probably as high as 20 per cent of minor factory injuries are due to sepsis, usually following hand injuries, stated Dr. D. Stewart at the annual meeting of the British Orthopedic Association. R. L. Kerrigan's work on the effect of using soap and water only for cleaning such wounds showed that out of 9,195 cases of compound hand injuries so treated, not one case required admission to hospital. No sulfonamides or other means of chemotherapy were made use of. L. Colebrook has shown that ordinary yellow household soap has a higher bactericidal power than toilet soap; five minutes' washing in 3-4 pints of warm water destroys most of the pathogens of sepsis. *Manufacturing Chemist* 13, 286 (1942).

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Guaiac as Fat Antioxidant

For the stabilization of fats and fatty foods, materials naturally occurring with food products have received most attention since such substances are unlikely to have toxic effects. However, one antioxidant not occurring with food materials has been shown to be an effective stabilizer for meat food fats. It is gum guaiac, obtained from a tropical tree. It is entirely innocuous physiologically and is a practical commercial antioxidant. H. S. Mitchell and H. C. Black. *Ind. Eng. Chem.* 35, 50-52 (1943).

Acid Detergents

Heretofore acid compounds have been unacceptable as cleaners in food sanitation because of their inferior detergency as well as their definitely corrosive action on metals. The discovery of organic acids with relatively low corrosiveness and inherent inhibiting effects on some micro-organisms, first pointed the way to developing acceptable types of acid cleaners.

The effective combination of such acids with surface-active agents and corrosion retarders has resulted in the development of acid cleaning compounds possessing a detergency superior to that of most alkaline products, as well as providing an incidental wash-water treatment, both corrective and curative, for the problem of waterstone and other calcareous formations. Acid cleaners therefore promise not only a revision but an even greater improvement in the sanitary practices of food industries. M. E. Parker. *Ind. Eng. Chem.* 35, 100-105 (1943).

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Wetting Agent Properties

Neutralization of fatty acids with amines gives soaps that tend to have a lower pH than that of ordinary soap. The amine soaps are also less stable on evaporation of their solutions, a desirable property in some applications. It is a simple step from sulfated castor oil to the sulfuric acid esters of the fatty alcohols. Aliphatic sulfonates are represented by esters of sulfosuccinic acid. These are true sulfonates containing —SO_2ONa rather than —OSO_2ONa. In both sulfated and sulfonated compounds the acid hydrogen is usually neutralized by reaction to give the sodium salt.

Addition of a hydrocarbon side chain and a sodium sulfonate group to an aromatic nucleus forms alkyl aryl sulfonates. This class of surface-active compounds may rival soap in price when produced in comparable amounts. The nucleus is predominantly that of benzene, but naphthalene and hydrogenated cyclic compounds also are important. Quaternary amines, carrying high-molecular-weight hydrocarbon chains, form a reversed type of surface-active agent. Complex ethers and esters with long hydrocarbon chains are nonionizing types of surface-active agents applicable in aqueous and nonaqueous media.

The great majority of surface-active agents have —COONa, —OSO_2ONa, or —SO_2ONa as the water-attracting group, and a straight-chain hydrocarbon radical of the range C_8 to C_{18} as the water-repelling group. By suitable combinations of such opposing groups, with sufficient experimental work a molecule can apparently be tailored to fit any surface-active requirement. Foster Dee Snell. *Ind. Eng. Chem.* 35, 107-17 (1943).

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Composition of Whale Oil

The component glycerides in a specimen of Antarctic whale oil have been investigated by separating the oil by crystallization from acetone containing solid carbon dioxide, at —10°, —20°, and —30° C., into four fractions of differing solubility and composition, and determining the component fatty acids present in each fraction.

No approach to complete separation of any individual glyceride was achieved, but the chief types present were found to be as follows: oleo-saturated-unsaturated glycerides (C_{14}, C_{16}, C_{20}, C_{22}), 66 per cent; oleo-diunsaturated glycerides ($_{14}$, C_{16}, C_{20}, C_{22}), 12 per cent; oleo-myristopalmitins, 8 per cent; saturated-di-oleins, 6 per cent; and tri-unsaturated glycerides (C_{14}, C_{16}, C_{20}, C_{22}), 4 per cent (mol). One unsaturated C_{18} acid group per triglyceride molecule occurred in 86 per cent of the triglycerides present, while two of these groups were present in a further 8 per cent of the oil. About half of the oil contained no acid higher than the C_{18} series, and about one-third contained one group per triglyceride molecule of the highly unsaturated C_{20} or C_{22} acids.

The glyceride structure of whale oil revealed by the present investigation accounts adequately for the changes in component glycerides observed during the course of progressive hydrogenation of the oil. T. P. Hilditch and L. Maddison. *J. Soc. Chem. Ind.* 61, 169-73 (1942).

Experimental Soap Kettle

A SOAP KETTLE capable of producing about 5 hundredweight of neat soap is large enough as an experimental unit for most purposes. Larger pans are apt to be a nuisance and take too large quantities of raw materials. Such a pan may be three feet in diameter and four feet deep. It is fitted with an open steam coil and a large sluice valve at the bottom for removing spent lyes and any superfluous soap. The soap can be baled out of the pan and no skimmer pipe is necessary. The pan should have the best possible lagging and a stout removable wooden lid. A cover for the latter made of padded canvas, to be put on the pan during overnight settling, helps to retard cooling to a minimum.

In such a pan the depth of neat soap and nigre together will amount to less than two feet and separation after fitting is much quicker than in pans of ordinary size. On the early change, spent lyes separate well in less than an hour. If there is occasion to carry out the boil quickly, the saponification, 2 or 3 washes, and fitting, can all be done in a single day, and on the following morning the soap can be cleaned.

In order to make a product exactly similar to the commercial article, the soap should be mixed with color and perfume, best done in a small crutcher of standard type. This could possibly be dispensed with for pure soaps, but is practically essential for silicated soaps. A size appropriate to that of the pan would be about 18 inches wide and deep.

Experimental equipment of this kind should not be considered as unwarranted or a fad, for properly employed it is of great assistance to the plant. Soap makers are often compelled to try out changes in the charges of standard soaps. It is not at all satisfactory to carry out the experiments with full-scale boils, for one reason because it takes nearly two weeks before the result of any experiment can be known, and also because not many experimental boils can be fully successful, so that a great deal of soap must be scrapped or sent out of a quality below standard. Such equipment is also useful in training new men. N. G. Weir. *Soap, Perfumery & Cosmetics* 15, 659 (1942).

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Soap Turbidimetrically

The amount of soap in solution can be determined by a turbidimetric method as follows: The soap solution containing 0.7-2 mg. or from 0.05 per cent of soap, is diluted to 50 cc. with water at 20° C. Five cc. of 2 Normal hydrochloric acid or 0.1 Normal calcium chloride solution are then added dropwise with constant stirring. After 10 minutes the turbidity is determined with a Spekker photoelectric absorptiometer, using a neutral color-glass filter, and compared with that produced by a standard soap solution containing a known amount of soap similarly treated. M. W. Partridge, *Quart. J. Pharm.* 15, 119-26 (1942); through *Brit. Chem. Abs.*

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Army Mobile Laundry

At Camp Lee, Va., the Army Laundry School is an important part of the Supply Training Section. The primary aim of the school is training for mobile laundry operation. The mobile units are each powered by a gasoline-driven generator, and contain a washer, extractor, and two tumblers, in addition to water pumps, boiler and hot-water heater. Operation of the units has been worked out to the last degree of efficiency. Clothing is first marked with marking pins and classified, then is washed in a cleansing solution prescribed for field use. In the extractor most of the water in the clothing is removed by centrifugal force. The drying process is completed in the tumbler. The whole process, including sorting and bundling, takes approximately one hour. Two trailer units can launder clothing for about 48 men in an hour—about 900 men each week. At least 1,500 such mobile units are to be put in operation.

Typical of the specialized services performed by the Quartermaster Corps for American soldiers both at home and in the field, the work of laundry technicians rests on the modern theory that troops fight better when they can give their whole attention and energies to the business of fighting. In the past, physical discomfort and disease, resulting from dirt have often taken a heavier toll than enemy guns. That will not happen in our army today. *The Laundryman* 8, No. 12, 11-12 (1942).

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Soaps from Hardened Fats

Experimental determinations of the height of foam show that soaps prepared from hardened fats, or rather their fatty acids, of titer 40-42° C. produce as much foam as ordinary soaps provided the concentration of the soap solution does not exceed an optimum figure of six grams of fatty acids per liter. This is amply sufficient for good detergency. Such fats can satisfactorily replace palm oil in laundry soap formulas.

Soaps of more highly hardened oils with a titer of 50-52° C. have a lower optimum concentration of four grams per liter, and resemble stearic-acid soap. They can replace tallow or stearic acid in toilet or shaving soap bases. *Seifens.-Ztg.* 69, 20-22, 37-39 (1942); through *Brit. Chem. Abs.*

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Catalyst Reactivation

Used catalysts for hydrogenation may be reactivated by subjecting the catalyst to at least one sequence of oxidizing and reducing steps above 700° F., and then subjecting it to at least one sequence of oxidizing and reducing steps below 700° F. A. J. Houdry, to Houdry Process Corporation. Canadian Patent No. 409,219.

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List Wetting Agents

Over 200 surface-active agents manufactured in America and commercially available are listed by trade name, chemical type, uses, industrial field of application, and manufacturer. *Ind. Eng. Chem.* 35, 126-30 (1943).

THAT SOAPS LIKE THESE MAY BE AVAILABLE

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Evaluation of Detergents

IN order to evaluate new detergents, synthetic or otherwise, standard washing tests prove most practicable. For these it is necessary to have uniform (1) test cloths, (2) soil, (3) washing conditions, and (4) method for measuring cleanliness of the washed cloth. For general use, a half-cotton, half-wool material is suggested, although many workers use either cotton or wool. The cloth chosen is influenced by the use for which the detergent is intended.

A "water-bound" soil has the following formula:

Lampblack	7 gms.
Glucose syrup	150 gms.
Glycerine or glycol	150 gms.
Water	1 gal.

The lampblack must be uniformly ground into the glycerine and glucose syrup. This mixture is then uniformly dispersed by heating and stirring in a gallon of warm water. For "oil-bound" soil one of the following may be used:

1. Lampblack	6 gms.
White oil	50 gms.
Anhydrous wool grease	50 gms.
Carbon tetrachloride or cleaners' naphtha	1 gal.
2. Lampblack	3 gms.
Crisco	6 gms.
White oil	20 gms.
Cleaners' naphtha	1 gal.

The lampblack is first ground with the melted wool grease or Crisco to give a uniform dispersion. The white oil is then added, after which the mixture is dispersed in the solvent. Lampblack should always be of the same degree of fineness. The soiling mixture chosen is applied to the standard cloth by shaking swatches of the latter in the mixture, or by other suitable means.

Washing tests are best made in the launderometer, a revolving wash wheel on which pint jars are mounted. Samples of soiled cloth are put in the jars with the solutions under test, usually also with rubber and steel balls. Constant temperature and a uniform rate of speed are controlled in the washing process. The time used varies ordinarily from 20 to 40 minutes and the temperature from 120 to 140° F.

Ordinarily detergents are evaluated both in soft and in artificially hard water. Many workers use water containing the equivalent in calcium salt such as the chloride or acetate of 100 parts of lime per million. Others use 200 or even 300 p.p.m. The concentration of detergent is often 0.2 per cent or 0.3 per cent. In every series of tests it is advisable to run "controls" using a known concentration of a standard detergent.

After the sample swatches have been washed, rinsed and dried, their whiteness should be determined, preferably by means of the Lange Reflectometer, which measures the intensity of light reflected from the surface of the sample material. Any wide variation in the swatches can, of course, be observed with the naked eye. Other instruments used are the Bausch & Lomb, the Carl Zeiss photometers. *Textile Colorist* 64, 519-21 (1942).

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Oil Stability Measurement

The course of the oxygen uptake by an oil or fat is measured under controlled conditions at 100° C. and is recorded automatically, so that a graph is obtained from which the induction period of the sample oil can be estimated. Two forms of apparatus for the determination are described. The method is suitable for routine testing and reproducibility of the results is satisfactory. Correlation with results obtained by the peroxide method of determining the induction period was found to be good. The induction period of fat mixtures approximates the value calculated from the known components except when one of the constituents is oxidized beyond the end of its induction period.

The antioxidant effect of soybean flour on premier jus is shown to be dependent on the condition of the fat to which the flour is added, being greater for fats of greater initial induction periods. The increase in the induction period is not proportional to the concentration of the flour, a relatively smaller effect being obtained as the concentration increases. In comparison with the antioxidant effect on premier jus, the effect of soybean flour on peanut oil is small. N. D. Slyvester, L. H. Lampitt and A. N. Ainsworth. *J. Soc. Chem. Ind.* 61, 165-9 (1942).

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Dry Cleaning Light Fabrics

In recent years men's fashion experts have decreed fancier shades in worsteds than the sombre hues previously used, — especially light gray, fawn, royal blue, light green and petrel blue. Such garments, which soil rather easily, require wet cleaning for a perfect job. Unless care is taken, this can easily result in felting and in color bleeding. The safest way to wet clean such garments is to keep the temperature low and to cut down the amount of soap used. If necessary, an anti-felting agent can be added. In using an emulsified solvent, the cleaner can make up his own mixture of a stock liquor to contain 65 per cent of Turkey red oil and 35 per cent of a solvent such as trichloroethylene, carbon tetrachloride, or eucalyptus. Of such a stock liquor, two pints should be used per 100 gallons of wash liquor, together with one pound of sulfated fatty alcohol, and half the usual quantity of soap. Cleaning should be carried out at 40-50° C. for 20 minutes, followed by a warm and a cold rinse. *Laundry & Dry Cleaning J. of Canada* 22, No. 12, 10, 19 (1942).

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Active Earth Evaluation

The usual methods of determining the activity of decolorizing adsorbents such as active earths and carbons by color measurement do not permit the determination of the non-oil substances separated from the oil. By shaking the adsorbent after its use to decolorize oil, in the cold with petroleum ether, the adsorbed substances remain on the adsorbent and can then be extracted and determined. The decolorizing value is given by the ratio of adsorbed substance to adsorbent. Andrea Paleni. *Chimica e industria* (Italy) 23, 87-90; through *Chem. Abs.*

PRODUCTS AND PROCESSES

Dry-cleaning Detergent

Guanyl urea alkyl hydrogen sulfates are suitable for use as dispersing and emulsifying agents. These compounds are formed by reacting together dicyanodiamide, sulfuric acid, and a primary or secondary lower alcohol. The reactants are heated initially to 70-80° C. and then undergo a spontaneous rise of temperature to a much higher point. The stearyl compound formed is soluble in hydrocarbons and may be used as a dry-cleaning soap. The products are white or gray and waxy or crystalline. David W. Jayne, Jr., and Harold M. Day, to American Cyanamid Co. U. S. Patent No. 2,286,364.

Acids in Dairy Cleaning

The action of gluconic and levulinic acids injected with the steam into churns previously washed with a reliable alkaline proprietary detergent is definitely superior to that of the alkaline detergent alone. Organic acids such as these give a pH of 6.0-6.5 in the churn, with negligible corrosion. High counts of spoilage bacteria were suppressed, odors eliminated, and clean surfaces obtained. M. E. Parker. *Milk Plant Monthly* 30, No. 9, 49-52; through *Chem. Abs.*

Soap Waterproofing Method

A new process for waterproofing fabrics makes use of the ability of soap to react chemically with proteins. The textile should first be impregnated with a dilute solution of a protein of the albumen or globulin type, until the fabric has taken up about four-fifths its weight in protein. The protein is then coagulated and denatured by moist heat.

The waterproofing is completed by boiling or nearly boiling with an aqueous solution of soap and free fatty acid. The latter may be prepared by dissolving the soap in hot water and adding a small amount of acetic acid. This treatment will resist laundering and dry cleaning. *Silk & Rayon* 16, 758; through *Chem. Age* 47, 537 (1942).

Extruded Soap

To form tubes reducible to smaller form by comminution, soap, cold and in a solid, plastic state, partially dried, is forced from the plodder through extrusion dies and cut transversely into lengths convenient for use. H. W. K. Pears and H. F. Slack. British Patent 545,116.

Nitroparaffin Soaps

The nitroparaffins and their derivatives constitute a new group of chemicals made commercially available through the combined efforts of the Purdue Research Foundation and Commercial Solvents Corporation. Many of the derivatives are surface active and find important use as emulsifiers and detergents.

Anhydrous soaps can readily be made by combining a fatty acid with an aminohydroxy compound, as in the following example:

$$\underset{\text{aminohydroxy compound}}{CH_3C(NH_2)(CH_2OH)_2} + \underset{\text{stearic acid}}{C_{17}H_{35}COOH} \rightarrow \underset{\text{soap}}{CH_3C(CH_2OH)_2NH_2HOOCC_{17}H_{35}}$$

Laurate and oleate soaps so formed are liquids, the stearates are solids. These soaps, in addition to being readily soluble in water, are soluble in a wide variety of organic liquids including alcohols, benzene, naphtha, pine oil, glycol, glycerine and ketones.

Aqueous solutions of the soaps are only mildly alkaline and are useful for scouring wool, rayon, pile fabrics, etc. Their resistance to acids and hard water is not much better than that of the simple alkali-metal soaps.

The aminohydroxy soaps are powerful emulsifying agents for many oils, fats, waxes and resins. Both oil-in-water and water-in-oil emulsions can be prepared by selecting the proper soap in suitable proportions. They are therefore useful in making polishes, cleaning compounds, "soluble oils," textile specialties, etc. The soaps are also useful in dry cleaning, where the presence of the soap permits incorporation of small amounts of water into the dry-cleaning bath and thereby facilitates removal of water-borne stains. Hillary Robinette. *Am. Dyestuff Reporter* 31, P575-80 (1942).

Paste Auto Polish

A simple paste polish which has been accepted by the Russian Zis auto works, contains the following:

	Per cent
Soap	4.05
Glycerine	6.75
Kerosene	19.30
Dibutyl phthalate	3.55
Abrasive	50.00
Water	16.35

Bull. Assoc. Am. Soap & Glycerine Producers, Sept., 1942.

Hand Soaps in War Time

(*From Page* 31)

furnish their workers with a hand cleaner, is a runner up. Paste soap is popular as the traditional stand-by when the individual worker is called on to furnish his own hand cleaner. The possibility for growth of paste volume is limited by the container situation. Order M-81 limits the amount of metal that can be used to pack paste soap to 100 per cent of the 1941 pack. The three-pound blackplate container is the smallest size container permitted, and that is the only metal that can be used. A paste soap manufacturer reported that fibre containers are not suitable for packing paste soap, and that even if they were, it is impossible to get delivery of these containers.

Aside from the fact that liquid soap is not the gritty, abrasive cleaner that paste or powder are, the need for packing liquids in glass containers gravitates against it. Powder hand soaps, of which there are increasing numbers on the market almost daily, and which are relatively free from container worries, would seem to be the field in which the greatest growth has and will continue to take place under war-time conditions.

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U.S.I. CHEMICAL NEWS

February ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1943

Dibutyl Phthalate Good Softener for Perbunan Rubber

Imparts Excellent Resistance To Cold and Gasoline Immersion

ELIZABETH, N. J. — Dibutyl phthalate is rated among the most satisfactory softening agents for the compounding of Perbunan type synthetic rubber, it is indicated by the reports of research workers here.

The effect of a number of softeners was studied from the standpoint of response of the compounded rubber to subzero temperatures, and also of contact with petroleum oils. As a result of these tests, it was found that dibutyl phthalate is one of a small group of ingredients which are effective in preventing hardening at low temperatures.

Effect of Petroleum

Since Perbunan is largely used for making hose, gaskets, and other parts subjected to contact with petroleum oils, behavior of the softener under these conditions is a matter of extreme importance. Undue extraction of the softener would result in marked shrinkages in volume of the compounded part. From this standpoint also, dibutyl phthalate shows good resistance to immersion in gasoline, as measured by volume change, tensile strength retention, and low increase in hardness.

Drug Trades Section to Hold Dinner on March 4

The 18th Annual Dinner sponsored by the Drug, Chemical, and Allied Trades Section of the New York Board of Trade will be held at the Waldorf-Astoria in New York on Thursday, March 4.

Following the precedent established last year, it has been announced that a substantial donation to a war charity will be made from the proceeds of the dinner. The cooperation of the industry in maintaining a high level of attendance at the dinner will help to make the contribution as large as possible.

Sulfa Drug Films Studied For Burns, Cuts, Surgery

BALTIMORE, Md.—Translucent films containing sulfa drugs are undergoing study here as a surgical dressing for burns and cuts and for the treatment of wounds. Preliminary reports indicate that the films are effective in preventing infection.

The films are prepared by making an emulsion of 3% sulfadiazine or sulfanilamide, 2.5% methyl cellulose, 3% triethanolamine, and 0.5% sorbitol with ethanol or acetone. This emulsion is sprayed on a smooth glass sheet, from which it is stripped off in the form of a film. The film is applied after preliminary cleaning of the affected area.

New Pittsburgh Address

U.S.I.'s Pittsburgh Office is now located in the Fulton Building, 107 Sixth Street.

New Source of Glycerol Opened By Process Developed by U.S.I.

Fermentation Procedure is Key to Vitally Needed Supplies For Manufacture of Explosives and Other Urgent Requirements

In view of the current importance of glycerol as a raw material in the manufacture of nitroglycerine for explosives, the development by U.S.I. of a commercially practicable method for producing this vital material by fermentation of molasses assumes outstanding interest. Pilot plant operations have demonstrated the feasibility of the technique, and commercial production is soon expected to alleviate the critical demand for glycerol.

Glycerol (more commonly known as glycerine), discovered in 1779 by Karl W. Scheele, is one of the oldest and most widely used chemicals. The value of glycerol rests on its physical properties rather than on its chemical constitution although it is employed chemically to make certain very important compounds. Of the physical attributes of glycerol, the most outstanding is its strong affinity for water. This has led to its employment as a humectant and plasticizer, and since it is non-toxic, it can be used in cosmetics and foodstuffs where an agent for the holding of moisture is necessary to keep the products in condition. Glycerol is a remarkably good solvent, comparing in this respect with water and ethanol. Many antiseptics and essential oils are soluble in glycerol, and this solvent property, combined with the fact that it is non-toxic, gives the compound its unique place in the manufacture of pharmaceutical preparations and as an ingredient of food products.

This article lists some outstanding uses of glycerol in military and civilian applications. A much more detailed listing is given in Bulletin GU, which is available without charge from U.S.I.

Manufacture of Resins

In recent years glycerol has taken an important place in the plastic field as a constituent of alkyd resins. These resins (phthalic anhydride and glycerol) are made in a variety of ways. Glycerol and resin are combined to make the well-known ester gums widely used

(*Continued on next page*)

New Method Described for Making Chroman Compounds

MINNEAPOLIS, Minn. — A novel process for making tocopherol-like chroman compounds has been revealed in a patent granted to an inventor here. Since alpha-tocopherol is Vitamin E, these new compounds, apparently of a similar character, are expected to have medical and biological applications.

Key to the new process lies in the preparation of the primary intermediate. A halo-alkyl derivative of a diether of hydroquinone is first prepared. This compound is then used to alkylate a *beta*-keto ester, preferably ethyl sodium acetoacetate, resulting in the formation of the primary intermediate.

Ethyl sodium acetoacetate is produced by U.S.I.

Non-Discoloring Adhesive Made with Aid of Urethan

WESTFIELD, Mass. — Discoloration of the adhesive on envelope flaps can be prevented by means of a novel formulation involving the use of urethan, it is claimed in a patent granted to an envelope maker here.

The discoloration is caused, according to the patent, by chemical reaction between degraded protein in the paper and reducing sugars in the adhesive. It can be prevented, it is claimed, by decreasing the reducing sugar content. The fluidity necessary to apply the adhesive to the envelope, ordinarily obtained by high sugar content, is achieved by addition of a carbamic acid ester, such as urethan.

The manufacture of nitroglycerine for explosives is one of the most important applications of glycerol. Procedure developed by U.S.I. will make additional supplies available for this and other purposes.

ADVERTISEMENT—*This entire page is a paid advertisement.*

February ★ **U.S.I. CHEMICAL NEWS** ★ 1943

Applications of Glycerol

(Continued from preceding page)

in varnishes. Glycerol is an important ingredient in adhesives, acting as a means of controlling the flexibility of these products so as to give them the maximum of strength under the conditions of use. A similar application is found in certain cements such as the familiar litharge-glycerol combination used as a plumber's cement and a cement for aquaria. Here advantage is taken of the readiness with which glycerol combines with the lead salt used in the cement to form a hard insoluble compound.

Plasticizing Cellophane

One of the outstanding uses of the compound in modern technology is the employment of glycerol in plasticizing cellophane. It is only necessary to consider how widely used this material is to realize the important part that glycerol plays in our everyday affairs. In cellophane the glycerol exists in the form of a solution of approximately 60% strength. About 25% of the weight of the finished product is made up of the plasticizer. Without a suitable softening agent, the cellophane film is brittle and useless.

Lubricating Properties

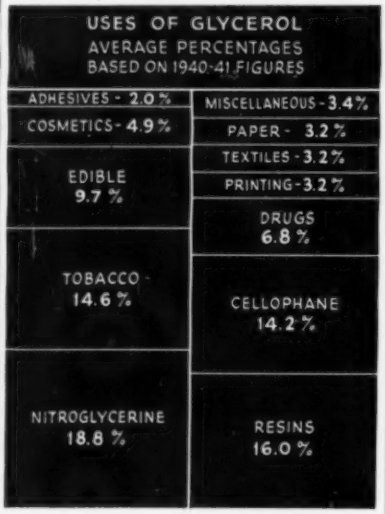
Other widespread uses of glycerol rest on its lubricating properties. Certain machinery used in processing foods must be lubricated with a tasteless and non-toxic lubricant. Glycerol fits these specifications well and has in addition a high degree of stability under the conditions existing in bearings.

In textiles, glycerol has uses which depend largely on its properties as a lubricant. It thus renders fabrics soft and facilitates weaving, and since it is so readily miscible with water, it aids in dyeing and printing operations on cloth.

Another major use of glycerol is in tobacco. Here the hygroscopicity of the material comes into play to keep the tobacco moist and thus to hold it in condition over long periods of time during which the tobacco without such protection would dry out completely. It is difficult to find a substitute for this particular use of glycerol.

Making of Explosives

The most important purely chemical use of glycerol is as a raw material in the manufacture of nitroglycerine for explosives. Modern ammunition requires precisely formulated propellants and nitroglycerine has a place of major importance as an ingredient in these propellants. Since the ballistics of long range guns is based on the propellant, the propellant formula cannot be changed without revising the data on which the aiming of the guns is based. The employment of nitroglycerine in powders overshadows all other uses at the present time.



An approximate breakdown of the amounts of glycerol employed in various fields is shown in the accompanying chart. Four uses, nitroglycerine manufacture, resin manufacture, tobacco conditioning and cellophane plasticizing account for over 60% of all the glycerol produced. The figures in the graph are averaged from 1940 and 1941 statistics.

The use of glycerol showed an increase of approximately 33⅓% from 1940 to 1941, and expanding military use, plus the necessity for adequate stock piling, makes a shortage of this vital chemical a possibility to be reckoned with during the coming months. Substitutions are possible to some extent and certain uses can be curtailed, but the restriction of available glycerol to explosive manufacture and its consequent elimination from all civilian uses poses a very difficult problem due to the widespread use of this versatile chemical.

This brief review of the major applications of glycerol indicates the importance of developing new sources of supply. The fermentation procedure developed by U.S.I. to meet this demand will be discussed in a second article on glycerol, which will appear in the March issue of U.S.I. CHEMICAL NEWS.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

New adhesives, made from a vegetable base, are said to compare in range and flexibility of action with animal-base adhesives. According to the maker, they can be used undiluted or mixed with water, to give firm adhesion in combinations of paper, cardboard, fabrics, leathers, and imitation leathers. **(No. 660)**

U S I

A sponge rubber substitute can be vulcanized directly to such surfaces as metal and plastics, and has flex-cracking resistance which improves at lower temperatures, it is reported. In many other respects, properties are said to be very similar to those of natural rubber. Material is immediately available for many war applications. **(No. 661)**

U S I

New gaskets made from solution-proof kraft paper are described as suitable for replacements for rubber gaskets in drums, pails, bungs, and spouts. They are said to have been tested for the transportation of all liquids except corrosive acids. **(No. 662)**

U S I

Drying oil substitutes can be produced by fractionation of domestic oils, research work indicates, and commercial production is expected soon. It is reported that the process is adaptable to the making of special fractions for specific purposes. **(No. 663)**

U S I

A suspension agent is reported to aid in preventing the settling or caking of pigments used in luminous paints. It is said that the product can be used in high concentrations to form thick supporting gels. **(No. 664)**

U S I

A lintless filter paper is described as having high retention qualities. Maker says that it is supplied washed with nitric acid, and that it is primarily suitable for the filtering of intravenous and subcutaneous injectibles. **(No. 665)**

U S I

Agitator tanks are now being constructed from wood, including cypress, redwood, pine, fir, oak, and poplar, it has been announced. Storage tanks up to 100,000 gallons capacity are also being produced. The wood tanks are expected to be useful to the processing industries. **(No. 666)**

U S I

Pure nickel foil is now being produced on a small scale in widths up to 16 inches and thicknesses from 0.00025 to 0.0015 inch, it is reported. Possible applications are seen as container linings, diaphragms, and wrappings. **(No. 667)**

U S I

Analytical sets now being supplied include the necessary apparatus and chemicals for the testing of plating solutions. One set is designed for determining total and free sulfuric acid; a second for total and free chromic acid. **(No. 668)**

U S I

Imitation perfume oils developed by one supplier are said to include products that simulate the following natural oils: cassia, bergamot, cinnamon, citronella Java, geranium, lavender, lemongrass, peppermint, and sassafras. **(No. 669)**

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Butyl Acetate
Ethyl Acetate

OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
°Diatol
Diethyl Carbonate
Ethyl Chloroformate
Ethyl Formate

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-anisidide
Acetoacet-ortho-chloranilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloranilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

ETHERS
Ethyl Ether
Ethyl Ether Absolute—A.C.S.

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Collodions
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No. 2,303,397, Alkaline Detergent, patented December 1, 1942 by Charles Schwartz, Pittsburgh, Pa., assignor to Hall Laboratories, Inc., Pittsburgh, Pa. An alkaline detergent composition for soft metal, comprising by weight about 60 to 95 per cent of an alkali-metal metasilicate, an effective amount up to about 35 per cent of an alkali-metal hydroxide, and an effective amount up to about 10 per cent of a water-soluble salt of a metal of the group consisting of barium and strontium.

No. 2,303,398, Alkaline Detergent, patented December 1, 1942 by Charles Schwartz, Pittsburgh, Pa., assignor to Hall Laboratories, Inc., Pittsburgh, Pa. An alkaline detergent composition for soft metal, the detergent composition comprising by weight about 60 to 95 per cent sodium metasilicate, an effective amount up to about 35 per cent sodium hydroxide and about 1 to 10 per cent of a mercury salt, the mercury salt being soluble in the aqueous solution of the sodium metasilicate.

No. 2,303,399, Alkaline Detergent, patented December 1, 1942 by Charles Schwartz, Pittsburgh, Pa., assignor to Hall Laboratories, Inc., Pittsburgh, Pa. An alkaline detergent composition for soft metal, comprising an alkali-metal silicate as its principal alkaline ingredient and being of such character that under normal conditions of use it will corrode the soft metal, and an effective amount of a water-soluble salt of a metal of the group consisting of arsenic and antimony to inhibit the corrosion of the soft metal, an effective amount being at least 5 per cent in the case of the arsenic salt and at least 10 per cent in the case of the antimony salt, based on the weight of the alkali-metal silicate.

No. 2,303,400, Alkaline Detergent, patented December 1, 1942 by Charles Schwartz, Pittsburgh, Pa., assignor to Hall Laboratories, Inc., Pittsburgh, Pa. An alkaline detergent composition for soft metal, comprising water soluble alkaline detergent material, at least 50 per cent by weight of the material being an alkali metal silicate, the detergent composition being of such character that under normal conditions of use it will corrode the soft metal, and at least 5 per cent by weight of a water soluble lead salt to inhibit corrosion of the soft metal.

No. 2,303,683, Insecticidal Composition, patented December 1, 1942 by Gerald H. Coleman and Fred W. Fletcher, Midland, Mich., assignors to the Dow Chemical Company, Midland, Mich. An insecticidal composition comprising as an active toxicant a mixture of a material of the class consisting of rotenone- and pyrethrin-containing plant extracts with a compound having the formula

$$R—O—C_nH_{2n}—X$$

wherein R represents an aromatic radical, X represents a member of the group consisting of chlorine and bromine, and $_n$ is an integer from 2 to 8, inclusive.

No. 2,303,932, Cleaning Composition, patented December 1, 1942 by Bruno T. Guild, Dorchester, Mass. A personal cleaning composition consisting of an acid chosen from the group consisting of acetic, lactic, citric and malic acids, and the sulfonated ether product of the reaction of an alkylated mono-hydric phenol with a poly-ether derivative of a material chosen from the group consisting of ethylene oxide, ethylene glycol and propylene glycol, the composition, when worked with water, yielding a solution having a pH below 7 and above approximately 4 which is not irritating to the skin.

No. 2,303,981, Insecticide, patented December 1, 1942 by Edgar C. Britton and Frank B. Smith, Midland, Mich., assignors to the Dow Chemical Company, Midland, Mich. An insecticidal composition comprising as an active toxicant stable sulfur-dithiocyanate.

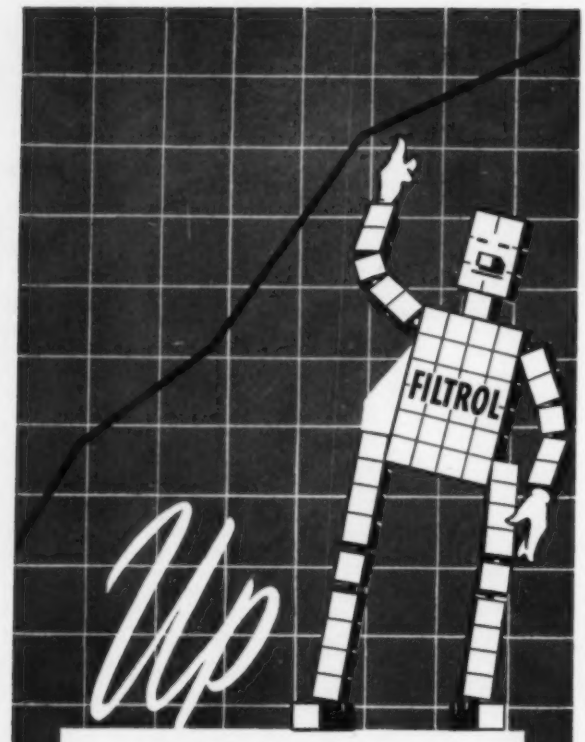
No. 2,304,722, Parasiticidal Material, patented December 8, 1942 by Eugene D. Witman, Columbus, Ohio, assignor to the Sherwin-Williams Company, Cleveland, Ohio. A powdered insecticide and fungicide which is substantially non-phyto-toxic and comprises particles of basic copper arsenate in the form of unbroken crystals having a size of from one one-thousandth to ten one-thousandths of a milimeter.

No. 2,304,950, Germicide, patented December 15, 1942 by Morgan Parker, Katonah, N. Y., and Thomas H. Frost, Danbury, Conn., assignors to Bard-Parker Company, Inc., Danbury, Conn. A composition of matter comprising formaldehyde in an amount of about 7 to 8 per cent, an aliphatic alcohol containing not more than three carbon atoms in preponderant amount, and a compound containing a reducing anion belonging to the group consisting of nitrite, thiosulfate, hypophosphite, hydrosulfite and sulfite.

No. 2,305,043, Soap Antioxidant, patented December 15, 1942 by William P. ter Horst, Packanack Lake, N. J., assignor to United States Rubber Company, New York, N. Y. A soap stabilized against deterioration and the development of rancidity by having incorporated therein a small proportion of a product obtainable by the reaction of an aliphatic ketone with ammonium thiocyanate.

Wool Shrinkage

Aqueous solutions of alkalies can be made either to increase the rate of shrinkage of wool or to decrease it, according to the conditions. By using a 1 per cent solution of caustic soda at low temperatures and for a short time of contact, the rate of shrinkage is decreased. Saturating the caustic solutions with salt helped in lowering the rate. Ammonia or its derivatives tend to increase the rate of shrinkage. In general, the results indicate that alkalies reacting on wool so as to affect principally the surface, reduce the rate of shrinkage, while alkalies acting so as to affect the interior as well as the surface of the fibers increase the rate. Joseph W. Creely and George C. LeCompte. *Am. Dyestuff Reporter* 31, 667-70, 682 (1942).



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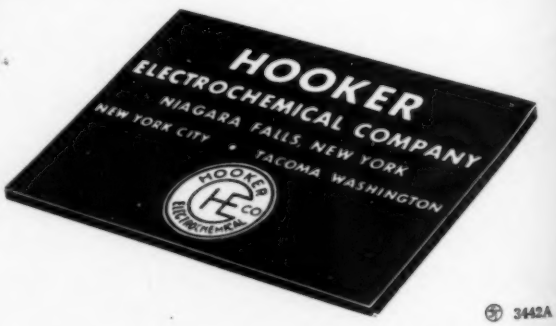
increasingly useful in his revised production methods. Among the more than ninety HOOKER products, all noted for purity and uniformity, are the following chemicals used in the manufacture of soap and sanitary compounds: Bleaching Powder, Caustic Soda, Cyclohexanol, Dichlor Naphthalene, Liquid Chlorine, Methyl Benzoate, Methyl Cyclohexanol, Paradichlorbenzene, Sulfur Monochloride, and Trichlorbenzene.



3442A

Offer Saddle Soap Specification

A PROPOSED new Federal Specification for Saddle Soap has just been issued by the National Bureau of Standards, U. S. Department of Commerce, Washington, D. C. Manufacturers of saddle soap are asked to study the tentative draft and offer any constructive suggestions to the Bureau. They should be addressed to Warren E. Emley, Chairman of the Committee on Leather and Leather Products of the Federal Specifications Executive Committee. The full draft of the new specification follows:

PROPOSED FEDERAL SPECIFICATION FOR SOAP, SADDLE.

Dec. 10, 1942

A.—APPLICABLE SPECIFICATION.

A-1 The following Federal specification of the issue in effect on the date of invitation for bids shall insofar as applicable, form a part of this specification:

P.S. 536—Soap and Soap Products, General Specification (Methods for Sampling and Testing).

B.—GRADES. This specification covers only one grade of saddle soap.

C.—MATERIAL AND WORKMANSHIP.

C-1 Material.—Saddle soap shall be a homogeneous paste consisting of soap, waxes, and oils in an aqueous emulsion.

D.—GENERAL REQUIREMENTS.

D-1 The soap shall be of such quality that leather can be cleaned with it readily and thoroughly.

D-2 When the soap is applied to a leather surface, permitted to dry, and rubbed with a soft cloth, the soap shall leave no greasy film, and shall cause no objectionable discoloration.

D-3 The odor of the soap shall be satisfactory to the purchaser.

E.—DETAILED REQUIREMENTS.

E-1 Consistency (see Section F-2). The soap shall be a non-flowing smooth paste over a temperature range of 40° F. to 100° F., with no separation of vehicle and in a proper form for application.

E-2 Chemical composition (see Section F-3). Shall be as shown in Table 1.

F.—METHODS OF SAMPLING, INSPECTION, AND TESTS.

F-1 Sampling. See P.S. 536, Section F-4-e.

F-2 Consistency. An original container of soap shall be cooled to 40° F. and maintained at this temperature for two hours. Examine and note whether any liquid has separated from the paste. Note whether the soap is soft and smooth to the touch and capable of readily being taken up with a brush or cloth without crumbling. Tilt the container and note whether any of the material flows or runs. Repeat the procedure specified above, except that the soap shall be maintained at a temperature of 100° F .for two hours and note results as above. The separation of a few drops of liquid which are reabsorbed when the soap is permitted to cool, shall not be considered as failure to meet this test.

F-3 Chemical composition. See P.S. 536.

	Par. in P.S. 536
Matter volatile at 105° C....	F-6c (1)
Free alkali or free acid.....	F-6e
Alkaline salts.....	F-6g
Anhydrous soap.....	F-6h
Unsaponified matter.....	F-6l
Unsaponifiable matter.....	F-6k

G.—PACKAGING, PACKING, AND MARKING.

G-1 Packaging.—Saddle soap shall be put up in one pound containers with tight, replaceable covers.

G-2 Packing.—Unless otherwise specified, the subject commodity shall be packed in substantial commercial containers of the type, size, and kind commonly used for the purpose, so constructed as to insure acceptance and safe delivery by common or other carriers, at the lowest rate, to point of delivery called for in the contract or purchase order.

G-3 Marking.—Each container shall be marked to show the nature of the contents and the net weight thereof.

H.—REQUIREMENTS APPLICABLE TO INDIVIDUAL DEPARTMENTS

H-1 The following departmental specifications of the issue in effect on date of invitation for bids shall form a part of this specification.

H-1a U. S. Army Specification 100-2 for Marking shipments.

H-1b *Navy*.—Navy Department General Specifications for inspection of material, copies of which may be obtained without cost, upon application to the Bureau of Supplies and Accounts, Navy Department, Washington, D. C.

I.—NOTES:

I-1 Invitation for bids and requisitions should state the color and thickness desired. Samples to illustrate the color, finish, and resistance to crocking may be furnished with bids, on request.

I-2 It is believed that this specification adequately describes the characteristics necessary to secure the desired material and that normally no samples will be necessary prior to award to determine compliance with this specification. If, for any particular purpose, samples with bids are necessary, they should be specifically asked for in the invitation for bids, and the particular purpose to be served by the bid sample should be definitely stated, the specification to apply in all other respects.

I-3 An alphabetical index of Federal Specifications may be purchased as noted next below, price to be obtained from the Superintendent of Documents.

I-4 Copies of this specification may be obtained upon application, accompanied by money order, coupon, or cash, to Superintendent of Documents, Government Printing Office, Washington, D. C. Price 5 cents.

TABLE I
Chemical Composition

Matter volatile at 105° C	Max.	76.0
Free alkali as sodium mydroxide	Max.	0.1
Free acid as oleic acid	Max.	0.3
Alkaline salts as sodium carbonate	Max.	0.1
Anhydrous soap	Min.	16.0
Unsaponified matter (free fatty oils and wax)	Max.	7.0
Unsaponifiable matter (from wax)	Min.	3.0

Glycerine from Sugar

Glycerine can be obtained from sugar by fermentation with *S. ellipsoideus* in the presence of an acid slurry of calcium sulfite and bisulfite. A sugar factory producing 8,000 tons of molasses a year can manufacture six tons of glycerine and 1,000 gallons of alcohol per day. J. O. Duchenne. Proc. 16th Ann. Congr. S. African Sugar Tech, Assoc. 1942, 45-7; through Chem. Abs.

Selective Glyceride Solvents

A method of extracting glycerides with selective solvents such as aniline, furfural or polyethylene glycol involves bringing an oil such as sardine, soybean, olive or tung oil into contact with a solvent at a temperature below that of their complete miscibility and above the melting point of the remaining undissolved oil fraction, so that two liquid phases are formed. One comprises the liquid solvent with the esters of higher iodine number dissolved in it, and the other comprises the liquid phase of lower iodine number. The faster drying esters of higher iodine number are recovered from the selective solvent. A. H. Batchelder, to Standard Oil Co. of Calif. U. S. Patent No. 2,285,795.

LEHMANN Equipment Now Takes On Added Importance

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Front View

SOAP machinery is hard to replace these days. Therefore it is essential that present equipment be maintained in the best possible condition. To this end the LEHMANN Repair and Maintenance Staff always is available. LEHMANN machines operating under the stress of war-time production are showing magnificently the efficiency which our designers and engineers have built into them. Now more than ever by giving continuous, efficient service they are paying big dividends on the money invested in them.

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pH and Your Pine Cleanser

(What is pH anyway?)

THERE are Pine Cleansers—and Pine Cleansers. To make the best, there can be no compromise on raw materials. Top quality ingredients are *de rigeur* to make that free flowing, transparent, yet molasses-like liquid, so highly regarded by cleaning craftsmen.

The best pine cleansers have that homogeneous, gel-like appearance. But they are tricky products to make. The finished liquid is remarkably sensitive to changes in pH, and each batch has to be carefully tested so as to give the maximum gel strength and yet remain free flowing.

To those who are unfamiliar with the meaning of pH, we append a few words of explanation. Water, harmless as it looks, is actually in electrical agitation. The electrically charged particles are not present in great numbers, but if gathered together would total one ounce in four million gallons. This ounce would contain positive and negative (acid and alkaline) electric charges whirling around with terrifying activity —yet in kinetic equilibrium—so nothing happens.

Scientists sought a way to express this fact, and hit upon the word pH. It is the logarithm of the reciprocal of the (molar) concentration of the positive (acid) charge in water.—Oh Boy! —The neutral point happens to be pH 7. Suffice it to say that pH 7 is very small, but each time it goes up or down *one* the concentration changes ten fold, e.g., pH 10.1 is one thousand times as alkaline as pH 7.1. But little is little —a thousand times a little is still little—which explains why pH is a valuable and easy way of expressing small amounts of alkalinity greater than 7, or acidity less than 7.

Now we will have breakfast.

For pine cleansers and potash soaps of all kinds—well made—consult CLIFTON.

CLIFTON PRODUCTS

VEGETABLE OILS SOAPS
COAL TAR DISINFECTANTS
PERFUMED DEODORANT SPRAYS
GREEN SOAPS
CRESOL SOLUTIONS
RUBLESS WAXES
LIQUID HAND SOAPS
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EQUIPMENT AND BULLETINS

IF YOU want additional information on any of the items described below or if you want any of the bulletins, catalogs, etc., write to the MacNair-Dorland Co., Inc., 254 West 31st St., New York, mentioning the number of the item.

922—New Solvay Catalog

Solvay Sales Corp., New York, have just brought out a new 30-page Solvay products book. The book, the cover of which is in full color with labels of various Solvay products forming an all-over design, is organized for ready reference. It gives specific information on forms, and the chemical and physical properties of Solvay products and their uses. In addition to product information, there are short chapters on safety methods, on dissolving caustic soda and caustic potash and how to utilize Solvay technical service. Booklets are supplied on request by writing the company at 40 Rector St., New York.

923—Fuld Bros. Guide

"Selling Sanitary Chemicals in Wartime" is the title of a vest pocket sized booklet just issued by Fuld Bros. It deals with questions and answers on current marketing problems such as: "How can I replace customers who have closed for the duration? What can I do about the shortage of salesmen? Can I replace products no longer available? etc." Another section of the booklet deals with sales of sanitary chemicals to government agencies, schools, public institutions, food handlers, defense plants, etc.

924—New Atlas Detergent

"Tweens" and "Spans"—new emulsifiers, detergents and wetting agents — were announced recently by the Industrial Chemicals Dept., Atlas Powder Co., Wilmington, Del. A 24-page technical booklet describing these materials is available on request. "Spans" and "Tweens" are Atlas' registered trade names for surface active materials. Chemically they are two related series of long chain fatty acid partial esters and polyoxyalkylene hexitol anhydride esters. They possess a multiplicity of functional groups, which permit an almost unlimited number of modifications and combinations to meet special conditions. "Spans" and "Tweens" include emulsifiers for water-in-oil and oil-in-water emulsions of either temporary or permanently stable types. They range in solubility from completely water soluble to completely oil soluble. They are non-electrolytes, and are supplied in concentrations of 97 per cent to 100 per cent. They are virtually free of soap and inorganic salts.

The book contains tables on surface activity, interfacial tension and spreading coefficients. Formulas of the materials, their specifications, their solubilities and many suggested use formulas are given.

925—Standard Synthetic Catalogue

Standard Synthetics, Inc., New York, has just released its 20-page 1943 catalogue of essential oils and aromatic chemicals. The preface contains a short history of the foundation and growth of the firm. Copies available on request.

926—ISCO Gum Bulletin

A brief illustrated narrative of gum karaya, Stericulia Urens, a product of British India, is told in a circular now being distributed by Innis, Speiden & Co., New York.

Givaudan Appointments

Givaudan-Delawanna, Inc., manufacturers of aromatic materials, New York, transferred Miss Gertrude M. SaVoie from their technical service laboratories to the sales department, as of January 1, 1943. In so doing, they have made available to their clientele the services of a woman who has spent the past ten years working with perfumes and cosmetics as a laboratory technician. She will be primarily concerned with contacting women in the field as a perfume and cosmetic consultant. Since women are the largest buyers of cosmetics, it is felt to be desirable to make available the services of a woman who is trained and has worked in the cosmetic field so extensively. This is in keeping with the course followed by many toilet goods manufacturers and establishments in employing women as stylists, packaging experts and sales consultants.

Another January 1, appointment of Givaudan-Delawanna is Robert E. Horsey to the sales staff of the new products division.

Cleveland TGA Formed

C. W. Burt of Shulton, Inc., was recently appointed publicity director of the newly formed Cleveland Toilet Goods Association, whose headquarters is the Cleveland Hotel. Mr. Burt covers Ohio for Shulton.

J. Grober Heads Albany Soap

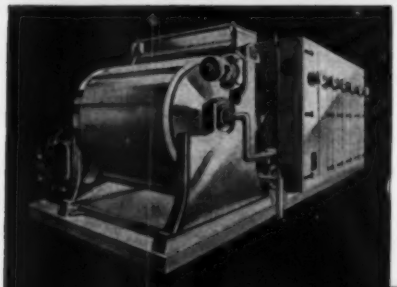
The following officers of Albany Soap Corp., Albany, N. Y., were elected on January 12, 1943, to serve one year: Joseph Grober, president and general manager, Wm. C. Schopman, vice-president, Wm. H. Geier, vice-president and assistant manager, John H. Rea, treasurer, Harry J. Geier, secretary.

Babbitt Grandson Dies

George V. Seward, grandson of George M. Babbitt, founder of Babbitt Soap Co., died in a Miami hospital last month of a skull fracture suffered in an automobile accident. He was 68 years old.

Develop Detergent Tests

Methods for comparing the merits of different detergents used in cleaning and sterilizing of food processing equipment have recently been developed by the New York State Agricultural Experiment Station at Geneva, N. Y.



In producing flakes for granulated soaps, toilet cakes or packaging, high speed output can often be an item of great saving. With the New Proctor Flake Soap System, from the hot liquid soap in the kettle or crutcher to the dried flakes requires only 6 to 14 minutes and capacities may be obtained from 750 to 6000 lbs. per hour, according to flake thickness, character of soap, etc. At this stepped-up production, quicker deliveries are assured and there are tremendous savings in floor space and equipment. Complete details are contained in a new 16-page illustrated catalog that is yours for the asking.

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Grease-Cleaning Compound

A FEDERAL specification for a solvent emulsion type grease-cleaning compound has just been approved by the Director of Procurements for use by all government departments and will become effective not later than March 1, 1943. Two types, non-phenolic and phenolic, are provided for, the detail requirements for the two types being as follows:

E. DETAIL REQUIREMENTS

E-1. The grease cleaning compound shall be a uniform liquid.

E-1a. *Type I.*—Nonphenolic.

E-1a (1). *Flash point.*—The flash point shall be not less than 200°F. (open cup).

E-1a (2). *Neutralization number (acid value).*—The compound shall have a neutralization number of not more than 8 (mg. of KOH to neutralize 1 gm. of compound).

E-1a (3). *Free alkali.*—The compound shall have no free alkali.

E-1a (4). *Pour point.*—The pour point shall be not more than 35°F.

E-1a (5). *Volatile matter.*—The loss in weight shall be not more than 10 per cent after a 24-hour period (see par. F-6).

E-1a (6). *Phenols.*—Shall be free from phenols (see par. F-7a).

E-1a (7). *Physical and performance tests.*—

E-1a (7) a. *Stability of emulsion.*—Shall meet test specified in paragraph F-8a.

E-1a (7) b. *Solubility in kerosene and in water.*—Shall meet test specified in paragraph F-8b.

E-1a (7) c. *Performance.*—Shall meet test specified in paragraph F-8c.

E-1b. *Type II.*—Phenolic.

E-1b (1). *Flash point.*—The flash point shall be not less than 200°F. (open cup).

E-1b (2). *Neutralization number (acid value).*—The compound shall have a neutralization number of not more than 8 (mg. of KOH to neutralize 1 gm. of compound).

E-1b (3). *Free alkali.*—The compound shall have no free alkali.

E-1b (4). *Pour point.*—The pour point shall be not more than 35°F.

E-1b (5). *Volatile matter.*—The loss in weight shall be not more than 10 per cent after a 24-hour period (see par. F-6).

E-1b (6). *Phenols.*—The material shall contain not less than 15 per cent nor more than 25 per cent phenols, by volume. (see par. F-b); and shall pass the phenol (C_6H_5OH) limitation test (see par. F-7c).

E-1b (7). *Physical and performance tests.*—

E-1b (7) a. *Stability of emulsion.*—Shall meet test specified in paragraph F-8a.

E-1b (7) b. *Solubility in kerosene and in water.*—Shall meet test specified in paragraph F-8b.

E-1b (7) c. *Performance.*—Shall meet test specified in paragraph F-8c.

Water-base Shoe Polish

In time of war, with both waxes and solvents difficult to obtain, it would appear that an emulsified shoe polish containing water but little or no solvent, would be well worth consideration. Water-base shoe polish formulas are as follows:

	Parts by weight
1. Carnauba wax	10.0
Paraffin wax	3.0
Beeswax	3.5
Curd soap	1.0
Turpentine or substitute	2.0
Rosin	0.5
Water	40.0
2. Crude montan wax	10.0
Beeswax	3.0
Carnauba wax	2.0
Japan wax	5.0
Soda ash	1.0
Water, boiling	75.0
3. Borax	0.5
Diglycol stearate	0.5
Hard soap	2.0
Nigrosin	5.0
Water	125.0

Available synthetic waxes may replace those specified. The molten waxes are mixed with turpentine and the dyestuffs. Alkaline salts and soap are dissolved in boiling water. The water solution is then stirred into the wax mixture, with stirring continued until a uniform emulsion is obtained. Products containing turpentine usually give a better gloss. George S. Collingridge. *Chem. Age* 47, 461-4 (1942).

Linseed Oil in Soap

(*From Page 27*)

anaerobic oxidation. Linseed oil soaps on ageing develop what the user commonly names a fish-like odor. This of course is due to the linolenic acid content and also to the decomposition of residual vegetable protein left in the crude oil, which latter on slow decomposition splits off some ammonia which along with the oxidation of the unsaturated fatty acid causes the development of a characteristic fish-like odor. Experience in the past has shown that alkali-washed linseed oil has a greater stability and under various conditions according to the method of manufacture, the fatty acids of linseed oil have more or less stability than crude oil.

"In the past years when the U.S.P. Green Soap was made solely of linseed oil for the Government, the usual type of package at that time in the Navy Department was a 4-lb. stone crock; for the Army a 1-lb. glass jar. The soap was also sometimes supplied in wooden kegs, or paraffin-lined pressed paper board containers. When made from crude linseed oil according to specifications and packed in the stone crocks, the finished soap on long standing did not decompose or become rancid or develop a fishy odor. As a matter of fact, and very interestingly so, the soap in question became whiter and whiter and after two years standing in the stone crock, the material had a color similar to white vaseline. The original alkali content of between .10 per cent to .25 per cent was still within these limits and the aged soap was still an excellent product in every respect.

"In contrast to this, when packed in glass jars the soap, especially during the summer months, would turn color where it came in contact with the glass jar. This color sometimes would be a brownish-red and across the surface of the soap would be a brownish slime. We attribute this breakdown to the red rays of light passing through the walls of the glass container and setting up a photo-electric chemical and physical change, developing oxy-acids, aldehydes and ketones of lower carbon content. Later on when the U.S.P. formula was changed to include added glycerine, and the glass jars containing the soap were packed in corrugated containers surrounded by outside wooden boxes, the keeping qualities of the soap were remarkably enhanced.

"When linseed potash soaps are packed in steel containers they tend to be more stable than if packed in wooden containers. This is especially true in the summer time. We have had examples in the past, notably on soaps supplied to the Army. When packed in soft gumwood kegs (25 lbs.), the soap dried out, due to the porosity of the wood. A slimy mass formed on the top of the soap, which

would ooze through the staves, creating a messy condition with a resultant loss of 15 to 25 per cent of the original contents of the package. This liquescence or sliminess is due to the evaporation of moisture from the soap and is contrary to the generally accepted opinion of the trade that this condition is due to deliquescence. This condition will occur with most of the vegetable oil soaps, but the high lauric acid content oils such as babassu and coconut oil become harder and harder and dryer and dryer and do not develop this liquescent condition."

* * * *

H. P. TREVITHICK, fat and oil chemist for the New York Produce Exchange, offers another fairly optimistic view of the possibilities of linseed as a replacement in the soap kettle. "Linseed oil has been used for a number of years, in small quantities," he reminds, "in soft or paste soaps, where the odor would not be material. It makes a good soap for washing automobiles, printed surfaces, etc. The type of oil used for such purposes has usually been the low grade oils or the soapstocks.

"The use of linseed oil in the manufacture of ordinary toilet and laundry soaps has not been general up to this time for four reasons:

"*First*: Its cost has been prohibitive.

"*Second*: Its odor has militated against its use.

"*Third*: It makes soft or paste soaps, due to its low titre.

"*Fourth*: The tendency to dry rapidly would promote the development of rancidity in the soap products.

"This oil can be hydrogenated, very easily, however, if it is possible to spare equipment for such use. If the oil is hydrogenated to a titre of 35 to 40 or 45, the odor is completely removed, and the oil would then be suitable for use in laundry and toilet products. Since the hydrogenation would lessen the rapid drying qualities of the oil, the tendency to promote rancidity in the soap products would also be eliminated, thus removing most of the objections to its use in soaps.

"Linseed oil contains the normal amount of glycerine, and therefore it would be valuable as a source of that commodity, so essential for continued peak production of munitions. Also, building operations are rather quiet at the present time, so the requirements for linseed oil for paints have been greatly decreased. Thus the reason for the higher selling price of linseed oil has been removed during the war emergency. It therefore seems feasible that it should furnish raw soap material at this time, especially when the need for glycerine is so pressing.

"Linseed oil soaps do not lather as well as tallow soaps, and therefore the oil would have to be blended with other fats rather than be used as the major or total source of the raw material."

* * * *

Further comments on linseed oil as a soap stock are contributed by Alan Porter Lee, New York, oil and fat expert and consultant. He says in part:

"The soap manufacturer who is so fortunate as to be equipped with hydrogenation equipment can face the prospect of using linseed oil as a basic raw material with equanimity, since by judicious pretreatment he will be able to control the titer of the oil for blending in any type of finished product. The hydrogenation treatment will also reduce or eliminate the content of linoleic and linolenic acids, the highly unsaturated elements which, with their affinity for oxygen, tend to reduce the keeping qualities and resistance to rancidification of the finished soap.

"Those manufacturers who must maintain normal quality in standard household or toilet soaps, without the advantage of recourse to hydrogenation will be hard pressed to establish suitable raw material blends permitting the use of linseed oil. They will perforce consume greater relative quantities of tallow and if possible in the face of war demands will advance the quality of their tallow purchases as well. It is conceivably possible that some of the high titer vegetable tallows of Central America will find a ready market in the American soap kettle as adjuncts to such oils as linseed."

* * * *

TURNING back once more to the supply picture, it may be worth while to review the Argentine market position in spite of the fact that for the immediate future there seems only a remote possibility that we might be able to expect any hope of additions to our linseed oil stocks from what has normally been our principal foreign source of supply. John B. Gordon of the Bureau of Raw Materials, Washington, contributes the following observations:

"Foreseeing the shortage of soap making fats and oils, due to the cutting off of Far Eastern supplies of palm and coconut oils, the writer, in December of 1941 and in the early part of 1942, was strongly of the opinion that the importation of large volumes of Argentine flaxseed or linseed oil produced from Argentine flaxseed offered a solution to the prospective soap fat shortage. Several memoranda were submitted by the Bureau of Raw Materials for American Vegetable Oils and Fats Industries to the War Production Board, pointing out that it would be highly desirable to create a reserve of linseed oil for soap making use. At that time the importation of linseed oil for this purpose seemed to be feasible and entirely practicable. The shipping situation while tight nevertheless was not so bad that it precluded the use of shipping space for this purpose and, further, there was a surplus of hydrogenation capacity available in the United States.

"Today neither of these conditions prevail. The shipping situation, due to the necessity of supplying one and a half million troops in foreign areas and the shipments of great volumes of foodstuffs and munitions under the Lend-Lease Act, combined with submarine sinkings has produced a shipping shortage which is much more apt to become worse before it becomes better although it undoubtedly will become better in time."

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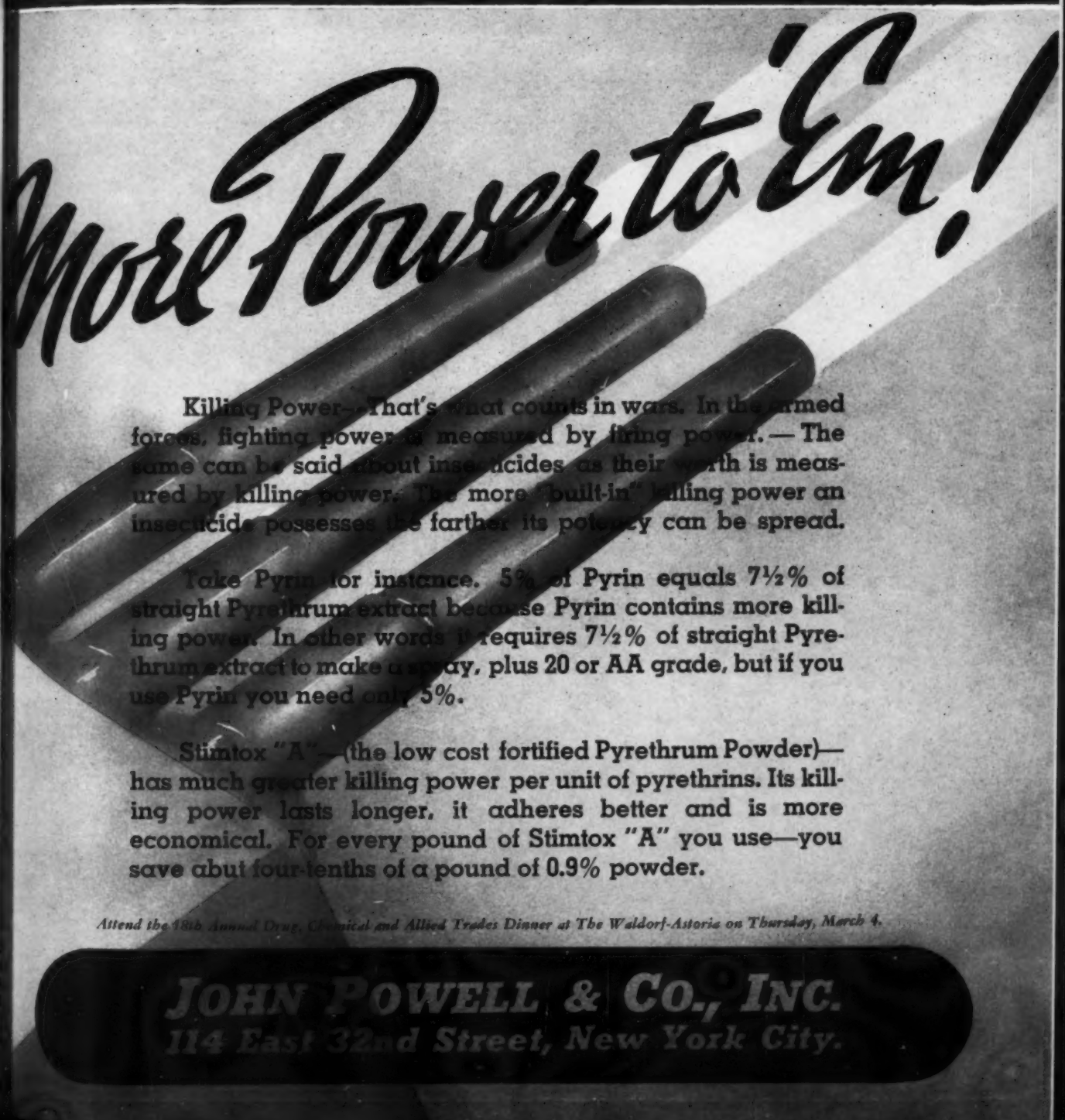

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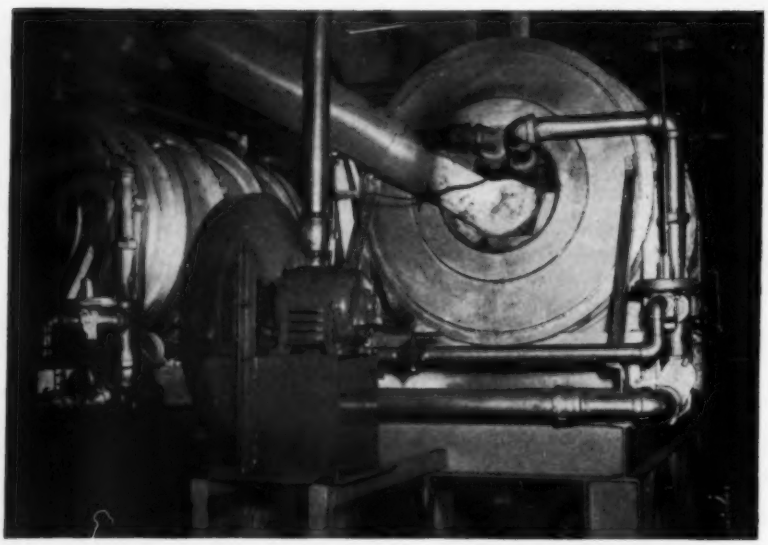
INSIDE NEWS

FEBRUARY PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Vegetable Flame Peeler Proves Successful



FLAME PEELER IN USE—*More satisfactory than abrasive peelers which remove a much higher percentage of the good part of vegetables, the flame peeler may well become a standard piece of cannery equipment in normal times.*

A FLAME PEELER has been used by a New York canning company to prepare vegetables for newly installed dehydrating lines. So successful has been the operation that it may prove a satisfactory unit for use in canning operations as well as for dehydrating.

The peelers originally were designed for use on pimentos in the south. They have been tried experimentally on carrots and should prove satisfactory for similar root crops.

The peeler consists of a large rotating metal cylinder lined with a refractory brick worm which carries the product through the cylinder during the flame treatment. An intense flame is blown into the cylinder through the intake end. As the vegetable passes through the outer surface is charred. A forceful stream of water at the output end of the machine washes off all the charred peel and the vegetable is ready for the inspection and preparation line.

The advantages of the flame peeler are said to be fast production with a minimum waste of material, since there is no abrasion beyond that of the water spray which cannot penetrate deeper than the heat treatment. (269)

Brazilian Oils Gain New Importance

Besides producing cottonseed, linseed, castor, coconut, brazil-nut, sunflower, peanut and palm kernel oils, as well as oil from coffee, Brazil yields many other vegetable oils which may become important as a result of war shortages. They include citicia oil from the seed of that name; babacu oil from babacu nut; andiroba oil, similar to almond oil; curicuri oil, similar to copra oil; bankul oil from the nogueira nut; cumarin oil; the edible oils of curua, sesame and macauba; pracaxi oil; corn oil and mustard oil. Moreover, murumuru and tacum, two vegetable fats used in the manufacture of margarine, are also produced in Brazil. (270)

* * * * *

SYNTHETIC TALL OIL has reportedly been produced in India from rosin and fatty acids by a method worked out at the Forest Research Institute, Dehra Dun. This material is in demand for the production of asphalt emulsions for road making, the British press reports.

Paints Now Made With Synthetic Resins

Paints made with synthetic alkyd resins have durability and adaptability. In the new lusterless, olive-drab enamels, these resins have largely replaced tung and perilla, and their incorporation in other paints has produced coatings particularly valuable for protecting the superstructure and other parts of warships. One report asserts that these resins and heat-bodied linseed oil yield varnishes better in some cases than those produced with tung—and at a smaller cost. (271)

New Substitute for Sponge Rubber

Because a kettle boiled over accidentally, a surgical dressings manufacturer has announced, there is a new substitute for sponge rubber that can be produced from waste farm products and used in tanks, airplanes and other war equipment.

Two chemists in the laboratories of the company were seeking a substitute for rubber as an adhesive in adhesive tape. They combined a resin with an acid. When they attempted to vulcanize it in a kettle with other chemicals, the contents foamed up out of control. They succeeded in controlling the foam and the new rubber substitute was the result. The sponge-rubber substitute, as yet unnamed, can be used to line tanks, pad airplane cockpits, pad helmets, fill seat cushions and make de-icers for airplane wings and mattresses for hospitals.

After the war the product will be used for general civilian production to replace natural sponge rubber. The discoverers of the new product said the resin was derived from soybean and corn oil. They said that by controlling the foam they can control the density and resilience of the substitute rubber. It is also claimed that the product absorbs more water than spongy rubber and can be easily vulcanized to metals, plastics or wood. Moreover, it does not age as rapidly as natural rubber and resists acids and gasoline better. (272)

War Spurs Meat-Drying Techniques

Probably one of the most important developments to come out of the war, so far as the other Americas are concerned, is the advance in knowledge of drying meats. The U. S. Government is placing large orders for millions of pounds of dried beef and pork.

Dried beef is made from the lean portions of beef cattle, with bones and fat removed. An average steer will produce about 75 pounds of dried beef weighing only one fourth as much as the original meat and measuring only one half the volume. Equally important, the dried beef can be safely eaten months after it has been prepared. (273)

NATIONAL CAN

PLANTS: NEW YORK • BOSTON • BALTIMORE • CHICAGO • HAMILTON, OHIO • FORT WAYNE, INDIANA

Importation of Mexican beer into the United States has more than tripled since last year. The leading breweries declare that they can supply only half of the present U. S. demand. Mexican beer also goes to several Latin-American countries.

* * * * *

Promote Sauerkraut Canning in the Home

Owing to restrictions placed upon canning sauerkraut in tin cans, manufacturers of kraut may stimulate the sales of bulk kraut by promoting its purchase for home canning in addition to that used for immediate consumption.

The objection to enforced selling of kraut in bulk is that it does not keep the year around. Continued fermentation in the containers after it is in the retailer's establishment eventually makes the kraut unedible. It is unlikely, therefore, that bulk consumption can ever result in as large a total demand as existed when the product could be canned.

However, a real consumer education campaign, sponsored by the kraut packers, might well point out to the housewife the advantages of purchasing new kraut in bulk and packing it at home for future consumption. Such promotion could give specific directions for home-canning of kraut, either by the hot-pack or cold-pack method.

Home-canning of kraut is easy. The only disagreeable home chore would be making the kraut in the first place. (274)

WARTIME CONTAINERS—National Can Corporation is producing quantities of steel drums and kits to contain essential war supplies. The type of steel drum shown here carries high-grade lubricating oil and solvents for the U. S. armed forces, has a capacity of 5 imperial gallons.

Technical Topics

VEGETABLE "BRICKS"—The compression of dehydrated vegetables into "bricks" which can be coated with various packaging materials to replace critical metals is being studied by the New York State Agricultural Experiment Station at Geneva, N. Y. The dried vegetables are reduced under tremendous pressure to small "bricks" practically free from air. They are then coated with various moisture-proof and gas-proof materials. (275)

NETTLES—Britain's search for economic value in weeds has developed a paper of excellent quality from nettles. (276)

PHOSPHATE COMPOUNDS occupy an important role in the manufacture of bread for the American armed forces. Ammonium phosphate is used as a propagating agent for yeast going into the dough, and sodium ferric pyrophosphate is added to the dough batch to aid the nutritive qualities of the flour. (277)

GELATINE can be made from dried rabbit skin shreds, and a patent covering the method has recently been issued. (278)

FLAVORINGS—Allied occupation of Reunion Island in the North African campaign gives this country another source of flavoring ingredients. Vanilla beans are produced on that island—also vetiver, ylang ylang and geranium. (279)

CHLORINE added in very small amounts to the circulating water of steam condensers was successful in preventing organic growths in the tubes. It is reported that the treatment is now in use in many British power stations. (280)

HALOGENATED POLYTHENES, described in a recent British patent, are declared to be useful raw materials for the manufacture of paints, varnishes, artificial leathers and related products. The polythene to be halogenated is made by polymerizing ethylene by subjecting it to very high pressure and moderately high temperature. (281)

AMMONIA SUBSTITUTES — Replacements for household ammonia, now unavailable because of the war, have been introduced by a number of manufacturers. The new products are said to clean everything that ammonia will clean, while offering the additional advantages of improved odor and lower toxicity. (282)

INSECTICIDE—A possible substitute for rotenone, essential insecticide ingredient now practically unavailable, exists in the ground seeds of the yam bean, a tuber-like root grown in some Central and South American countries. Tests against cabbage worms, codling moth larvae, aphis, etc. showed results in some cases equal to the control provided by rotenone. (283)

TERPHENYLS have been made available commercially by a large American chemical manufacturer. The new high molecular weight, aromatic compounds are declared to offer opportunities in the chemical synthesis of dyes, drugs, and organic chemicals. They may be halogenated, sulphonated, or nitrated in the manner usual for aromatic compounds, it is added. Ortho, meta, and para forms are offered. (284)

PLANT HORMONES—Phenoxy and benzoic acids substituted in the nucleus with halogen, methyl, and nitro groups were declared recently to have opened a new line of progress in plant hormone development. Dichlorophenoxyacetic acid is very effective, it was stated, in causing cell elongation, adventitious roots, parthenocarpy and various formative effects. (285)

CHLOROPHYLL has been shown in recent investigations to have medicinal value in combating deep-lying infections in the cleansing of wounds, and in the relief of chronic sinus conditions and common head colds. It is also stated to be effective in controlling the offensive odor from certain anaerobic infections. (286)

ACRYLIC RESIN and mixed lower alipathic acid esters, such as cellulose acetate-butyrate or cellulose acetate-propionate, are stated to produce tasteless and odorless compositions suitable for coating the inside of metal food containers, according to a recent United States patent. (287)

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corp., 110 E. 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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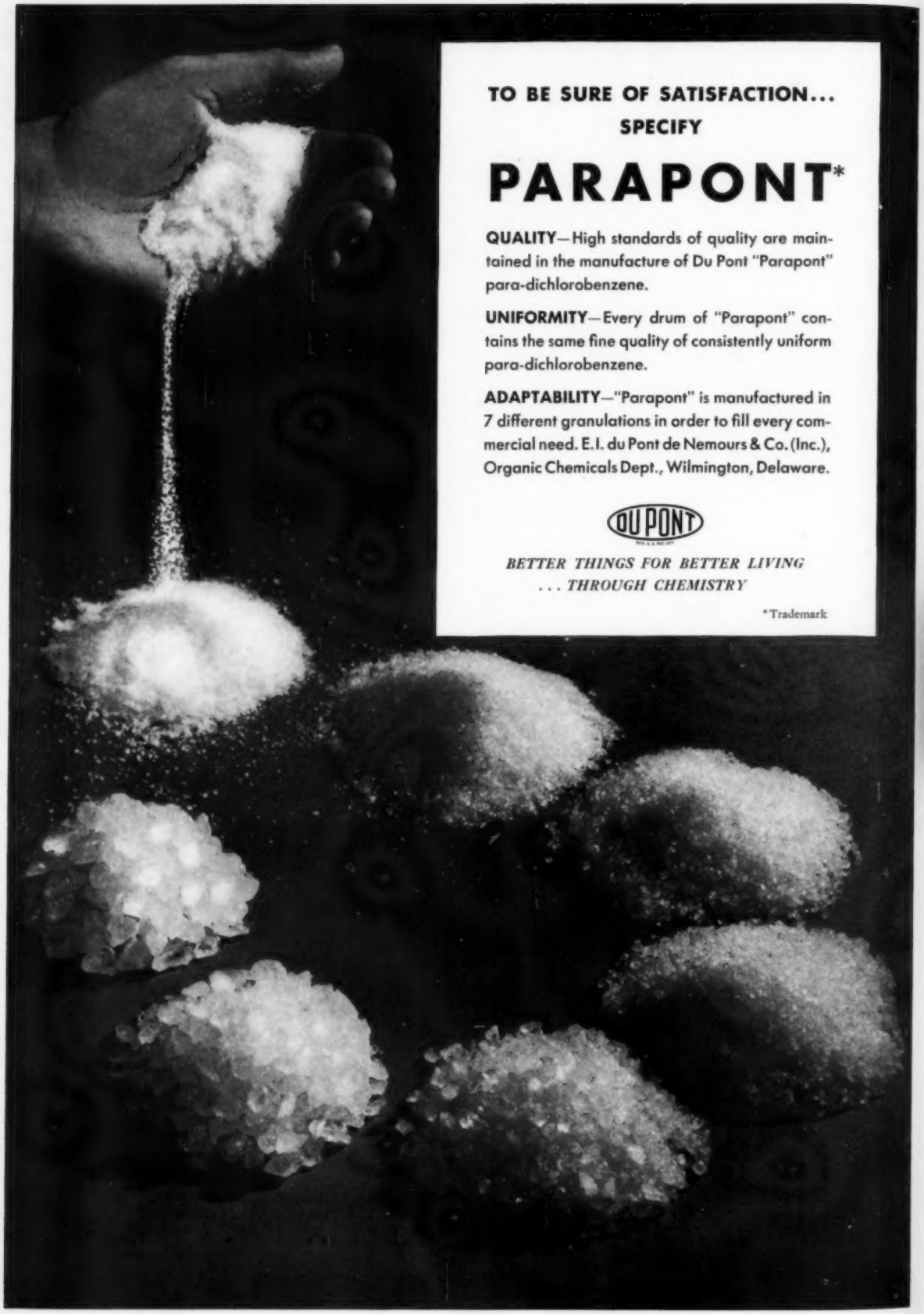
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9. Dusts better in field or orchard.

Frianite M3x is shipped direct from the mines and factory at Friant, California, in 100-lb. paper bags. Its many superior qualities make it economical to ship anywhere in the United States. No priorities are needed.

CALIFORNIA INDUSTRIAL MINERALS CO.
PRODUCERS
FRIANT, CALIFORNIA

GRP

Still serving

Non-Rubbing Floor Wax Manufacturers

now with

GRP PROCESSED PURE CONGO GUM
TYPES A and C

To replace as a war-time alternate

The Trade Standards—GRP Shellacs and Manila Copals

Years of personal contact and experience with your problems have enabled our laboratory to develop a Fused Congo of uniform high quality completely satisfactory for non-rubbing floor wax.

GRP Resins plus GRP Technical Data are beyond the experimental stage. Their merits have been proven by steadily increasing volume and repeat orders.

Prompt shipments can be made without priorities or allocations. Investigate at once to insure uninterrupted production.

Samples and basic formulations upon request.

GILLESPIE-ROGERS-PYATT CO.
80 John Street Incorporated **New York, N. Y.**

thanite

Trade-mark Registered, U. S. Patent Office

A new toxic agent, Thanite*, for insect sprays kills more flies in a 2% solution than a 5% solution of standard pyrethrum extract. Knockdown and repellency are also high.

Kills Most Insect Pests

Thanite is effective for moths, mosquitoes, bedbugs, ants, silverfish, spiders, and other insects. It is used with great success in heavy-base oils for cattle sprays.

Stability Simplifies Packaging

Of particular value at this time, when certain packaging materials are unavailable, is the stability of sprays containing Thanite. They can be put in all types of containers used for insecticides, and will not deteriorate even when exposed to sunlight in flint glass bottles.

Tests Will Convince You

The results of Peet-Grady tests on Thanite sprays are shown in the table below. Can you get as good results with the ingredients you are using? Make your own comparative tests and you will want Thanite in your sprays.

HIGH KILLING POWER IN LOW DILUTIONS

Type of Base Oil	Percentage of Thanite	Dilution Ratio	% Knockdown 10 Minutes	% Dead 24 Hours	Grade	Rating	% Dead & Moribund	Grade	Rating
Deodorized Kerosene	1.75	1:57	98.4	41.2	B	+ 0.8	51.0	A	+ 9.9
"	2.00	1:50	98.9	52.4	A	+12.4	65.3	AA	+24.7
"	2.50	1:40	99.2	59.5	AA	+19.1	75.4	AA	+34.3
"	3.00	1:33	99.7	65.2	AA	+24.8	83.1	AA	+42.0
"	5.00	1:20	100.0	86.1	AA	+41.6	94.6	AA	+48.7
50 Viscosity White Oil	1.5	1:67	94.8	56.6	B	+ 3.7	No moribund flies.		
"	2.50	1:40	99.5	78.5	AA	+25.6	No moribund flies.		
"	5.00	1:20	99.6	89.8	AA	+36.9	99% dead and moribund.		

NAVAL STORES DEPARTMENT

HERCULES POWDER COMPANY

INCORPORATED

961 MARKET STREET, WILMINGTON, DELAWARE

QQ-105

WOULDN'T CONVERSION TO GLASS CONTAINERS CUT MY PRODUCTION, MR. LIGHTFOOT?
NOT NECESSARILY. MODERN GLASS IS FREQUENTLY HANDLED AS FAST AS CANS

Outmoded as hoop skirts is the belief that glass containers cut production. Thanks to modern equipment, many types can be handled as speedily, efficiently and economically as cans—and often with the same equipment.

Whether you pack solids, semi-solids, powders or liquids...pack hot or cold, with or without vacuum, sterilized or processed, Anchor Hocking has a container and closure to most completely meet your specialized requirements.

A word from you about the products you're thinking of packing in glass will bring samples of suitable containers and closures. And remember—Anchor Hocking packaging engineers are at your service to help with the efficient conversion of your production line.

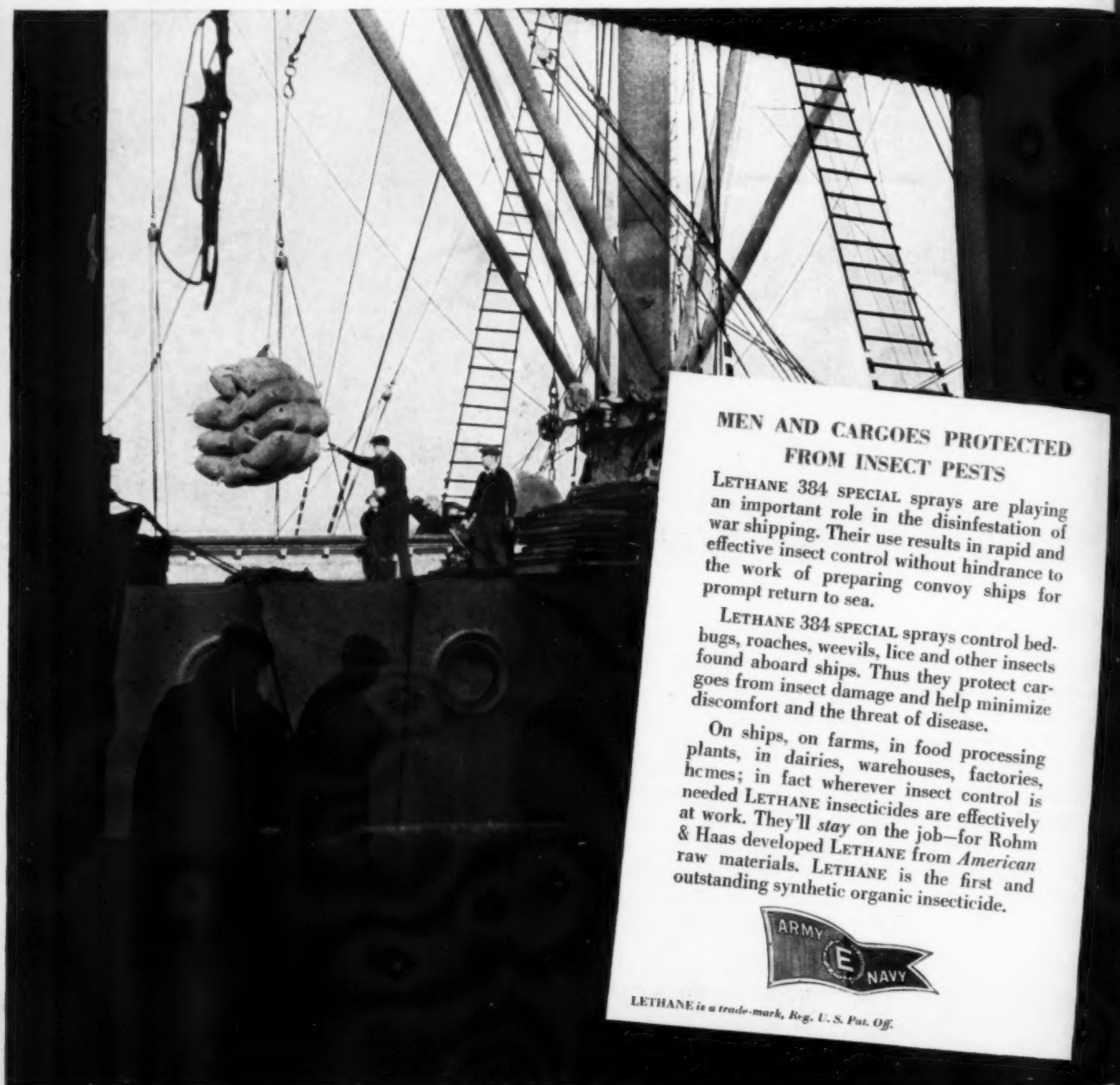
An able and popular Anchor Hocking representative is C. L. Lightfoot, a member of the Anchor Hocking family for 23 years.

ANCHOR HOCKING

GLASS & CAPS

ANCHOR HOCKING GLASS CORPORATION · LANCASTER, OHIO

LETHANE 384 *SPECIAL* works on ships



MEN AND CARGOES PROTECTED FROM INSECT PESTS

LETHANE 384 SPECIAL sprays are playing an important role in the disinfestation of war shipping. Their use results in rapid and effective insect control without hindrance to the work of preparing convoy ships for prompt return to sea.

LETHANE 384 SPECIAL sprays control bedbugs, roaches, weevils, lice and other insects found aboard ships. Thus they protect cargoes from insect damage and help minimize discomfort and the threat of disease.

On ships, on farms, in food processing plants, in dairies, warehouses, factories, homes; in fact wherever insect control is needed LETHANE insecticides are effectively at work. They'll *stay* on the job—for Rohm & Haas developed LETHANE from *American* raw materials. LETHANE is the first and outstanding synthetic organic insecticide.

ARMY E NAVY

LETHANE *is a trade-mark, Reg. U. S. Pat. Off.*

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes . . . Chemicals for the Leather, Textile and other Industries

Odor Problems Disappear When Aromatics' Specialists Are Near

SAFRASS "N"
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The above products represent three different versions of substitutes for Oil Sassafras Artificial.

They are economically priced and can be produced on a large scale.

Quotations and samples will be submitted upon request.

AROMATIC PRODUCTS, INC.

15 East 30th Street, New York - - Factory: Springdale, Conn.

ATLANTA • DALLAS • MEMPHIS • PITTSBURGH • CHICAGO

KENYA

IS GROWING MORE PYRETHRUM

Recent discoveries in methods of using Kenya Pyrethrum are increasing its effectiveness, but still the demand continues above the available supply.

The farmers of Kenya Colony are striving to meet this situation by continually planting more and more of their broad acres—which produce the most active Pyrethrum—and are growing ever larger harvests of

— KENYA PYRETHRUM —

The requirements of the Armed Forces are gradually being met and oncoming shipments will begin to provide the American Farmer with the pyrethrum he needs in his all-out wartime effort to produce the

FOOD NECESSARY FOR VICTORY

from allotments for agriculture of

KENYAPYE

REG. U. S. PAT. OFFICE

MEANING KENYA PYRETHRUM

THE SAFE *BASIC* INSECTICIDE

Return Engagement.. with the Same Duraglas All-Star Cast!

TRADE MARK REG. U. S. PAT. OFF.

It's Your Duty to Save what you have
...and Smart to Buy Conservation Aids in
Duraglas*
CONTAINERS
CLAUDETTE COLBERT
CLEANING FLUID
Duraglas
Keep home, clothing, car and household equipment in good condition. Use cleansers, polishes, waxes and many other products that add to the life and appearance of your possessions.
Look for the name Duraglas* on all containers. It indicates that the maker insists on the best of everything, including his package.
OWENS-ILLINOIS GLASS
OWENS-ILLINOIS GLASS COMPANY, TOLEDO — DEVELOPERS OF "Duraglas" — THE IMPROVED TECHNIQUE IN GLASSMAKING

★ *First* SEEN IN
THE SATURDAY EVENING POST
NOVEMBER 21, 1942
(Circulation 3½ Million!)

★ *Now* Running in
FEBRUARY
WOMAN'S HOME COMPANION
(With an Audience of 4 Million More!)

Household Conservation news gets a big hand from American women who read Duraglas advertisements like the one shown here.

And they know from experience that homemaking, hygiene and beauty products in Duraglas containers mean dependable, convenient packaging. They see what they buy. They know how much is used, and when to buy again.

You can be certain that Mrs. America wants to buy *your* product in Duraglas today—and tomorrow. For once she has experienced its convenience and savings, you are doubly sure she will insist on the best from then on. Owens-Illinois Glass Company, Toledo, Ohio.

OWENS-ILLINOIS
GLASS COMPANY TOLEDO, OHIO

EXCLUSIVE DEVELOPERS OF Duraglas CONTAINERS

...Official Test Insecticide

STOCKS of the 1942 Official Test Insecticide are available for immediate shipment from the office of this Association. The 1942 O.T.I. is required for all current testing and grading of fly sprays by the official Peet-Grady Method. The 1942 O.T.I. will remain official until June 1, 1943.

Directions for use of the O.T.I. and the technique of the Peet-Grady Method are given in a booklet, a copy of which is included in each carton of O.T.I.

The O.T.I. is available at $5.00 per dozen bottles, plus shipping costs, to members of this Association. To non-members, there is an additional service charge of $1.00 per dozen bottles. Single bottles are $1.00 each. Check with order is required.

▼

National Association of Insecticide & Disinfectant Manufacturers, Inc.

110 East 42nd Street — New York

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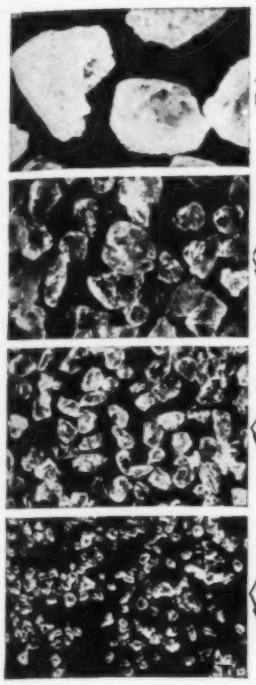

THESE 4 GRADES

instead of our former 10 Grades of

SOLVAY

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PARA-DICHLOROBENZENE

Solvay customers, who formerly had the advantages of selecting from 10 grades of Solvay Para-dichlorobenzene to fill their needs, will appreciate the many war reasons which make it necessary to reduce our line of grade sizes to four.

Sizes 1, 3, 6 and 9, as shown above, have been selected from the 10 former grade sizes after a careful study to determine which sizes were best adaptable to all normal customer needs.

The high quality of Solvay Para-dichlorobenzene remains unchanged. Manufacturers who have been using other Solvay grade sizes than those shown above, will find Solvay Technical Service extremely helpful in advising on the best methods of adapting Nos. 1, 3, 6 and 9 to new requirements. Send in the coupon today.

SOLVAY SALES CORPORATION
40 Rector Street, New York, N. Y.

Gentlemen: Kindly send me your new folder which gives complete information on Solvay Para-dichlorobenzene for moth control.

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DY-2

M M & R "So Sorry" to Disturb Mosquito Emancipator!

As if our enemies aren't plentiful enough, Mr. Tojo slows down Oil Citronella importations to a trickle and all but emancipates another enemy horde, the vicious CULEX *(common American mosquito)* just by way of giving us *an extra "buzzy" time* on the home front swatting down this particularly persistent aerial antagonist.

To nip the Nippon's newest nuisance in the nick of time, M M & R comes to the rescue of Oil Citronella users with OIL CITRONELLA REPLACEMENT #21 M M & R, *a thoroughly tested, highly efficient product* that approximates the odor characteristics of Citronella to a remarkable degree and yet *costs less than one third of the natural product.*

If you have been using Ceylon or Java Citronellas or an equally hard to obtain camphoraceous oil, *write today* for a testing sample and our *attractive* price schedule on OIL CITRONELLA REPLACEMENT #21 M M & R.

M M & R *"so happy"* to serve American Industry and people . . . *"so sorry"* to disturb Mr. Tojo and friends.

OTHER GOOD NEWS ON THE REPLACEMENT FRONT

These are a few of the many other M M & R replacements for currently high priced and hard to get oils.

ANNOL M M & R—Replaces Oil Anise in technical products of many kinds.

CAM-O-SASS M M & R—100% U.S.A. made replacement for expensive camphoraceous oils.

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OIL LEMONGRASS REPLACEMENT #619 M M & R—Replaces Oil Lemongrass Native. Ideal where low priced perfume oil is needed.

IMITATION LAVENDER OIL #30 M M & R—Exceptional! Replaces Oil Lavender Flowers U.S.P. in technical products.

OR-O-TYME M M & R—An efficient replacement for Oil White and Red Thyme (all varieties as well as technical). Oil Origanum and Methyl Salicylate. Excellent perfume characteristics.

MAGNUS, MABEE & REYNARD, INC.

QUALITY ESSENTIAL OILS, BALSAMS, AROMATIC CHEMICALS, BASIC PERFUMES, FLAVORING MATERIALS . . . SINCE 1895

16 DESBROSSES STREET, NEW YORK CITY • 221 NORTH LASALLE STREET, CHICAGO

OFFICES IN PRINCIPAL CITIES • CANADA: RICHARDSON AGENCIES, LTD., TORONTO

Plastics begets its newest child . . . synthetic rubber

Under the impelling influence of war, the full meaning of plastics is bursting upon the public in all its dazzling ramifications.

To people who think of plastics as telephone sets, radio cabinets, and automobile gadgets, it comes as a surprise that nylon stockings are made of *thread-like* plastics . . . that some of the finest modern paints are *liquid* plastics . . . and that synthetic rubber is just an *elastic* plastic.

The *hard* plastics, the *thread-like* plastics and the *liquid* plastics have created vast fields for this newest of industries. Now the *elastic* plastics are opening up new vistas. Army tanks, jeeps and many other American weapons will be riding on synthetic rubber and eventually, the American motorist will find this product freeing him of rationing shackles.

The supplying of materials for plastics is one of Koppers' many war jobs. Koppers is making airplane catapults, anti-aircraft gun mounts, airplane, submarine and automotive piston rings, pitch coke to speed aluminum production, coke plants to increase steel production and dozens of other products.—Koppers Co., Pittsburgh, Pa.

Coal has long been the chief source of plastics intermediates, the basic materials being tar acids, light oils, naphthalene, etc. Coal is also one of the chief sources of some of the most important ingredients of synthetic rubbers . . . including styrene, made from benzene, which is combined with butadiene in the manufacture of the buna-S synthetic rubbers. Coal tar products, such as cresyl phosphates and various phthalates, are used as softeners and plasticizers; coal tars and tar oils are themselves rubber softeners. Koppers recovers and supplies these raw materials for the manufacture of materials for plastics and synthetic rubber. It also developed the first large-scale American supply of ammonium thiocyanate, which is finding uses in this field.

Buy United States
War Bonds and Stamps

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

PYREFUME

SUPER 20
SUPER 30
SUPER 40
SUPER 100

...AND PURIFIED OLEORESIN OF PYRETHRUM FLOWERS ASSAYING 20% PYRETHRINS

▶ With the rapid changes in the utilization of Pyrethrum products we desire to emphasize our facilities for the manufacture of high concentrations now a focus of interest.

▶ Purified Oleoresin of Pyrethrum, 20% Pyrethrins wax free is available—subject to allocation under Order M-179.

▶ For agricultural, livestock, household and general extermination use we are glad to serve the industry to the extent of our ability. Stocks are limited and necessarily are being apportionated in accord with importance of end use.

IT'S YOUR AFFAIR! Why not make it your business to attend the Annual Drug, Chemical and Allied Trade Section Dinner, at the Waldorf-Astoria Hotel, on March 4, 1943. Order your tickets now.

S. B. PENICK & COMPANY

50 Church St., New York, N. Y. **735 W. Division St., Chicago, Ill.**

"Buy War Bonds and Stamps--for Victory"

THE WORLD'S LARGEST BOTANICAL DRUG HOUSE

No More AMMONIA

COLE SOLV

Steps in ...TO STAY!

Does everything Ammonia can do — but SMELL!

Clear or cloudy, $10 per Gross Quarts, F.O.B. New York. Private label on orders of 5 gross or more.

COLE LABORATORIES

22-14—37th Avenue Long Island City, N. Y.

No Priorities Necessary To Buy

HI-TOX 20

Yes! You can buy Hi-Tox 20 today without bothering about priorities or other government regulations. Simplify your supply problems by standardizing on this tested and reliable insecticide concentrate. Large supplies are available for immediate shipment.

EFFICIENT—Hi-Tox 20 has been on the market for over four years and has been used successfully by many manufacturers. Each batch is tested and certified to give no less than an "A" grade insecticide for a 5% dilution. A 4% dilution gives a "B" grade product. The repellency of Hi-Tox is unusually high.

UNIFORM— Hi-Tox 20 is manufactured in this country from material produced here. This material is under close chemical control consequently it is uniform at all times and the buyer of Hi-Tox is assured of a standard product on every order.

NON-TOXIC—Hi-Tox 20 is non-toxic to warm blooded animals. Will not injure any material and is completely odorless when diluted in odorless base oil. Non-irritating.

STABLE—Hi-Tox 20 does not deteriorate with age. Light or temperature have no adverse action on its killing power. Compatible with pyrethrum, derris and other concentrates.

ECONOMICAL—Hi-Tox 20 is priced right. Quantity discounts available for buyers on a contract basis.

Write or Wire for Further Information

ASSOCIATED CHEMISTS, INC.

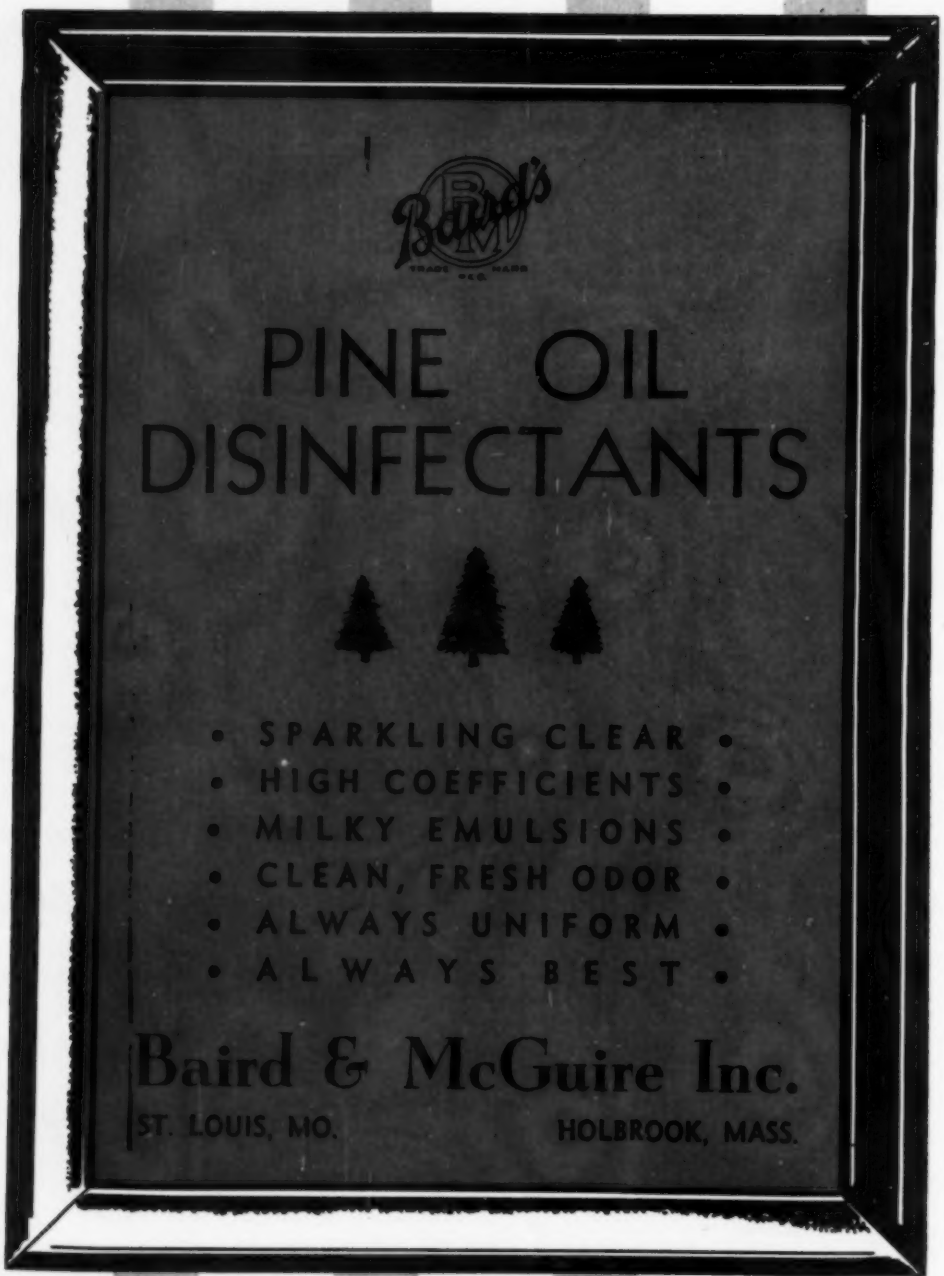
1906 N. HALSTED STREET CHICAGO, ILLINOIS

...and there's also a Right Way

To be properly perfumed, an insecticide should be put into the hands of a competent perfumer, experienced in this special field. Insecticides must be carefully treated so that the proper balance between base odor and perfume be achieved. There is a right way to perfume an insecticide which leaves no obnoxious base odor and no perfumy pall.

VAN AMERINGEN-HAEBLER, INC.

315 FOURTH AVE. ★ NEW YORK CITY



"Pretty as a picture"

SANITARY PRODUCTS

A SECTION OF SOAP

Official Publication, Nat'l. Assn. of Insecticide & Disinfectant Manufacturers

SEVERAL plans calling for an increase in the domestic price of rotenone roots and dusts have been proposed by American millers and processors. They suggest that the price of five per cent rotenone powders be increased five cents per pound over the present ceiling and other rotenone products in proportion. The object is to enable a higher price to be paid to root gatherers and shippers in South America to stimulate production as a means of relieving the acute rotenone shortage now faced by American agriculture.

Even though OPA stands opposed to lifting any and all ceiling prices, this suggested advance in rotenone products should be an exception. It is the sensible and practical method of getting more root, as many years of experience have shown. *And above all right now, we need more root!* Out of a total visible root supply for 1943 of some 12 or 14 hundred tons, 300 tons in a single shipment were lost recently by submarine action in the Caribbean,—equal to six million pounds of half-per cent dust which American farmers *will not get* this year. In comparison with the vital need for rotenone to protect food crops, the proposed five-cent price increase is definitely a minor factor. The present margin in rotenone will not permit importers and processors to stand a higher cost unless the ceiling price is raised. The sensible procedure appears to be a higher price *right now,*—not six months from now,—to bring out every pound of root possible from South America in a manner which only the magic wand of higher price can accomplish.

DEFINITE action to amend the U. S. Insecticide Act of 1910 to require the coloration of poisonous insecticide materials, particularly fluorides and arsenicals, has been taken by officials of the Department of Agriculture. The proposal originating with Dr. W. G. Campbell, Commissioner of Foods and Drugs, has also received the attention of Roy F. Hendrickson, head of the Agricultural Marketing Administration, the latter having jurisdiction in the enforcement of the Federal Insecticide Act. They appear to agree that an amendment to the federal law would be followed by the adoption of similar coloration requirements by the states as in the manner of state Food, Drug and Cosmetic Laws. In short, if the U. S. Government sets the example, the states will follow and the problem of wholesale poisonings, particularly by sodium fluoride, will be at least on the right road toward eventual solution.

This action by Department of Agriculture officials is to be commended and deserves full support by legislators and the insecticide industry. And may we go a step further to suggest that until such time as the law is changed, every insecticide manufacturer and distributor, — for the selfish good of his own neck if not for humanitarian reasons,—anticipate this amendment, and refuse to buy, mix, pack, handle or sell white insecticide poisons, particularly the one which has taken the greatest toll of human life, white fluoride. If it's not distinctly colored, don't buy it or sell it *starting today!*

INSECT CONTROL in food production . . .

AT this time, when our nation is engaged in a total war, food assumes far more importance than in times of peace. Just a few short years ago, food surpluses were a problem. Now we have food shortages. Foodstuffs that were plentiful are now rationed. We face the problem not only being cut off from certain food products which we imported but are faced with the big problem of feeding our Allies, and with the advent of peace, must prepare to feed the conquered nations of the world and possibly even our present enemies.

Even in the days of peace, food played a most vital role in world economics. We heard much regarding the "have" and "have not" nations. Those "have nots" who started this world conflagration led their peoples to believe the "haves" were strangling them and preventing their full and free development. This, in spite of the fact that their domestic policy was "guns instead of butter." The war lords of Europe well realized that a misled, hungry people could be urged on into war by playing on their appetites and promising better living through warfare.

In traveling from Munich to Berlin just as the Nazis were taking Prague in March, 1939, one of us was discussing the impending war with a Rumanian, Englishman and Austrian. There were diverse opinions as to the underlying causes of discontent. After long argument, however, it was decided that "bread" and the question as to how to obtain it and how much "bread" each nation of the world had to eat was the basic cause of the envy and hatred that were leading to war.

The preservation and conservation of food is closely linked with its possible destruction by insects. This applies not only to growing crops but even more forcibly to food safely harvested and stored. Aside from physical conditions related to production of food crops that are largely impossible of control, it can be said that food production is limited to the extent that we are able to check the onslaughts of insects and disease-producing organisms. This is accomplished on essentially three fronts: (1) the development of insect and disease-resistant varieties; (2) the control of plant pests on the growing crop; (3) and the protection of the harvested product up to the time it is finally consumed.

Food products, in one form or another, stored in warehouses, granaries, factories or on the pantry shelves of our homes are just as much subject to insect invasion as the growing crop in the field. In the case of grains, fruits and vegetables, insect infestations are obvious, especially when injury to them is occurring. Moreover, the mode of control is well known. Timely applications of insecticides as sprays or dusts usually check the trouble.

Insect infestations of stored foods frequently go unnoticed until vast injury has been done. The insects responsible for such injury are usually minute and are not observed until they become conspicuous by their numbers or are observed as the food is consumed. They may be brought into the warehouse from the field, where, in turn, infested material is passed on down the line to the distributor and the consumer. Control measures are frequently undertaken at a time most difficult for attainment of complete results. Because such operations may involve special equipment and the expenditure of large sums of money, efforts at control are apt to be neglected.

The annual loss to stored food products in the United States was stated to average about five per cent of the total value, or $200,000,000. The U. S. Bureau of Entomology and Plant Quarantine elevated this figure to $300,000,000 in 1939. It should be noted that this does not include the costs of planting, of the labor required in cultivating the crop, of materials required for insect and disease repression, of harvesting or the costs that are involved in the processing of the food, its sale and distribution.

Destruction of large amounts of food supplies during war times might well, under extreme conditions, mean starvation of the masses. Cockroaches have been known entirely to destroy food stored by the Laplanders. It is also noted that in years past one of the critical duties of sailors upon long ocean voyages was to guard the ships from the ever-present and ravenous cockroaches. During the first World War, large quantities of wheat in Australia were destroyed by weevils and right now the wheat stores in this country and Canada are being deteriorated by the wheat mite.

Foods Destroyed by Insects

INDEED it is difficult to think of a food or food product that is rejected as a means of nourishment by all insects, regardless of their state of hunger. Materials that would seem to be entirely foreign to the insect's gustatory sense are apparently eaten with relish. Paprika, capsicum (red pepper), ginger and other spices are commonly infested in factories. Where fumigants are available, the fumigation of these materials is a routine practice. Thus the whole array of foods and food products (whole grain, seeds, flour, malt, meals, spices, cereals, fruits,

First of a series of two articles on the use of insecticides to protect our war-endangered food supply

By Dr. E. G. Thomssen and Dr. M. H. Doner

J. R. Watkins Company

cheese and other dairy products, meats, fats, dried fruits and vegetables) are readily subject to destruction by insects.

Insects and mites destroy foods in several ways. First, by *direct consumption*. Ants, cockroaches, weevils, meal worms, flour larvae are noted for their inroads on food supplies. Although such losses may be grave under conditions of severe infestations, we are inclined to believe that such losses are more or less irrelevant by comparison with other manners by which insects render foods unfit for use. Second, the *contamination* or *pollution* of food which is tantamount to its complete destruction. Roaches are noted for their ability to impart obnoxious odors to foods, due to an oily secretion of special scent glands on the insects' bodies. The housewife regards such foods utterly unfit for human use. A package of even lightly-infested breakfast cereal or dried beans or flour is promptly thrown away or burned. Many a baker has lost a customer because of an insect or insect fragment that accidentally fell into the dough. While we do not advocate the consumption of insect-contaminated foods, the fact remains that much food is directly or indirectly destroyed as a result of some type of insect contamination.

Sources of Infestation

A GREAT many of our insect pests were brought into the United States as stowaways in food supplies. In fact, the number of insect species of economic importance native to this country is surprisingly few. The various means of transportation have made it possible for insects to extend the boundaries of their domains. Many are now cosmopolitan in habitat. With airplane transportation increasing, this danger is multiplied many fold.

One of the difficulties that we have to contend with is that insects sometimes change their food habits in such ways as to come into direct conflict with man's interests. Many of our most destructive crop pests originally were inconspicuous feeders on wild host plants. A study of the insect species in the food caches in nests of bees and wasps by Linsley, revealed the presence of dermestids, confused flour beetles, the Indian meal moth, Mediterranean fruit fly and others. "The nests of bees and wasps," concluded the investigator, "may serve as reservoirs by certain stored products of pests maintaining small populations which may later serve as foci for infestations of foods stored by man."

The theory of spontaneous generation was disproved centuries ago, yet it is surprising how many people, there are, housewives for instance, who believe insects come from nowhere and simply generate spontaneously from the medium in which they occur. They observe a "buggy" sack of flour and do not understand that the "worms" had hatched from eggs laid in the flour by a moth or beetle that had been drawn to the flour as a place to lay its eggs. The declaration that an insect passes through four distinct stages,— egg, larva, pupa, adult,—is news to many people. Once this fact is clearly understood, it is not difficult to appreciate the manner in which foods become infested.

Insect infestations in factories, warehouses, railroad cars, etc., are all too often traceable to unsanitary conditions. A bit of meal or flour lodged in a crack, or a hidden barrel of meal may serve as a continual source of infestation. Refuse piles on the premises are a potent source of infestations. Inroads of skippers into cheese factories, for instance, can often be traced to piles of waste cheese on the grounds outside of the buildings. Obviously, proper control of stored food product pests is best obtainable by directing control measures at the source of infestations.

EACH class or type of food has its peculiarity that requires special attention, although the underlying principles regarding the control of infestation are fundamentally the same. Many entirely different species of insects are involved, and in the case of the mites which are almost microscopical in size, a knowledge of their life histories and habits is essential to the establishment of forms of control. These have been worked out in detail for many species but there are still gaps in our knowledge that remain to be filled.

Grain and Grain Products: The storing of grain to prevent insect attack and the means of combatting an infestation once it occurs, is one of the farmer's most pressing problems. The holding of grain in bins for any length of time usually spells trouble for the farmer and the cereal experimenter who wants to hold over from one season to another seeds of new or high-grade varieties. One portion of the grain or seed supply that becomes infested serves as a focus for infestation of all the grain or seeds in storage.

In addition to about 50 species of insects that injure grain, mites also frequently present a problem. According to a communication from Dr. Smallman, Entomologist for the Board of Grain Commissioners, of Manitoba, Canada, several species of mites occur in stored grain but only one species, the Common Mite (*Tyroglyphus farinae* DeG.) is capable of physically damaging stored grain. This injury consists of destruction of the germ end of the wheat berry and an increase in the moisture content of the grain due to the moisture produced by the respiration of the mites.

Infestations commonly occur in "dead storage" of the temporary grain elevator annexes. Here the mites are usually found just below the surface of the grain, decreasing in numbers with increasing depth. In the terminal elevator bins, the mites usually are present near the top and at the bottom of the bins. More cases of mite infestation are reported during the winter months than in the summer months and small numbers of grain mites have been found in grain coming directly from the fields.

According to Dr. Smallman the "mechanical handling of stored grain (skimming, turning, cleaning) will give temporary control of mite infestation, but if the grain retains a moisture content above 13 per cent, it is liable to subsequent re-infestation. Adequate ventilation over the surface of the grain and continual loosening of the surface layers by shoveling or raking, have proven to be excellent preventive measures. Fumigation with chloropicrin has been used against heavy infestations with fairly satisfactory results, even at relatively low grain temperatures." Accessory control measures include the destruction of the mites in the annexes by the use of liquid sprays.

The ever-normal granary system was aimed to stabilize the grain market by maintaining an adequate supply to draw upon in cases of emergency. Obviously unless the grain can be kept free from insects the people of the United States will not benefit from this program. In the face of specially constructed granaries which are insect-proof and fumigable, dangers of infestation are greatly minimized and if they do occur can be checked by appropriate use of fumigants. Condi-

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Survey of Stored Food Pests

General Pests (commonly encountered in households):

- Ants
- Cockroaches
- Silverfish (*Lepisma saccharina* Linn.)
- Dermestids (*Dermestis lardarius* Linn., etc.)
- Black Carpet Beetle (*Attagenus piceus* Oliv.)
- Varied Carpet Beetle (*Anthrenus verbasci* Linn.)
- Confused Flour Beetle (*Tribolium confusum* Duv.)
- Bean Weevil (*Mylabris obtectus* Say.)
- Pea Weevil (*Mylabris pisorum* Linn.)

Grain, Flour, Meals, Seeds:

Weevils

- Grain Weevil (*Calandra granaria* Linn.)
- Rice Weevil (*Calandra oryzae* Linn.)
- Granary Weevil (*Sitophilus granarius* Linn.)
- Bean Weevil (*Mylabris obtectus* Say.)
- Pea Weevil (*Mylabris pisorum* Linn.)

Beetles

- Flat Grain Beetle (*Laemophlaeus pusillus* Schon.)
- Foreign Grain Beetle (*Ahasversus adveria* Watl.)
- Saw-Toothed Grain Beetle (*Oryzaephilus surinamensis* Linn.)
- Square-Necked Grain Beetle (*Cathartus gemellatus* Duv.)
- Cadelle (*Tenebroides mauritanicus* Linn.)
- Confused Flour Beetle (*Tribolium confusum* Duv.)
- Red Flour Beetle (*Tribolium castaneum* Hbst.)
- Small-Eyed Flour Beetle (*Palorus ratjeburge* Wissm.)
- Slender-Horned Flour Beetle (*Echocerus maxillosus* Fab.)
- Broad-Horned Flour Beetle (*Echocerus cornutus* Fab.)
- Large Cabinet Beetle (*Trogoderma tarsale* Melish)
- Small Cabinet Beetle (*Authrenus verbasci* Linn.)
- Museum Beetle (*Anthrenus museorum* Linn.)
- Drug Store Beetle (*Sitodrepa panicea* Linn.)
- Black Fungous Beetle (*Alphitomius piceus* Oliv.)
- Rust Red Flour Beetle (*Tribolium ferrugineum* Fab.)
- Carpet Beetles (*Dermestids* spp.)
- Meal Worms (*Tenebrio obscurus* L.J. *molitor* Linn.)
- White-Marked Spider Beetle (*Ptinus fur* Linn.)
- Brown Spider Beetle (*Ptinus brunneus* Duft.)
- Hairy Spider Beetle (*Ptinus villiger* Reit.)

Caterpillars

- Angoumois Grain Moth (*Sitotroga cerealella* Oliv.)
- Meal Snout-Moth (*Pyralis farinalis* Linn.)
- Indian Meal Moth (*Plodia interpunctella* Hbn.)
- Mediterranean Flour Moth (*Ephestia kuehniella* Zell.)

Meats:

- Larder Beetle (*Dermestes lardarius* Linn.)
- Cheese Skippers (*Piophila casei* Linn.)
- Red-Legged Ham Beetle (*Necrabia rufipes* Deg.)

Cheese:

- Cheese Skipper (*Piophila casei* Linn.)
- Mite (*Tyroglyphus longior* Gerv., *T. Siro* Linn., *T. farinae* De Gerv.)

Fruit (Dried):

- Raisin Moth (*Ephestia figulilella* Greg.)
- Dried Fruit Beetle (*Carpophilus hemipterus* Linn.)
- Indian Meal Moth (*Plodia interpunctella* Hbn.)

tions on the average farm are such as not only to enhance infestations of grain but to hinder the effectual control. Farmers are urged not to expose fresh grains to already infested grain, to fumigate old grain, to use one of the recommended insecticides and above all to have the granaries or bins constructed in such a manner as to discourage conditions favorable for development of insects. These procedures are most desirable and farmers should be educated to them. Until the farmer realizes his loss and how to combat it, insects will continue to destroy a great amount of grain each year.

Dehydrated Foods: Recently the food industry has undergone several marked developments, one of the most important being that concerned with food dehydration. The preservation by dehydration of foods other than dried skim milk, fruits, beans, and fish has been comparatively little used until recently. At the present time, stimulated by the necessity of war economies, especially transportation across the seas, this field has progressed amazingly to include a wide array of produce, including milk, eggs, vegetables and even butter. Although dehydration is a method of *preserving* foods, it is no guarantee against destruction by insects and, as a matter of fact, the control of insects in dehydrated foods, especially vegetables, is a problem demanding strict attention at all times.

Vegetables are dried to a low moisture content which, in itself, kills any insects present. Although every attempt is made not to cause delay in packaging, delays of several days are not uncommon and this permits chances of infestation. Scrupulous cleanliness by way of disposing of all piles of fruit or vegetable waste, discards, or trimmings and the screening of windows and doors, is clearly indicated as an effective form of insect control.

Fumigation appears to be the favored method of repression but caution must be exercised in selecting fumigants that can be conveniently used and which will not impart poisonous properties to the food. Methyl bromide, ethylene dichloride, carbon tetrachloride, chlorpicrin and ethylene oxide have been successfully used. Vacuum fumigation and the use of high temperatures is used for destroying insects in packaged material.

Cheese and Dairy Products: The estimation of the damage to cheese by skippers and mites is difficult. "The losses," according to DeOng and Roadhouse*, "include the actual injury due to the presence of cheese skippers in the body of the cheese, the impaired appearance of all cheese attacked by mites and skippers, the annoyance to manufacturers and dealers, and the expense connected with the treatment of cheese for the control of these pests. The presence of cheese skippers causes an additional loss to the industry through the sale of cheese containing the 'cheese maggot,' which tends to disgust the purchaser and lessen the consumption of cheese."

Skippers cause no trouble when cheese is kept under proper refrigeration (30 to 35° F.) It is only when cheese is kept in a warm temperature and starts to spoil that skippers appear. Mites are the cheesemaker's greatest problem. They are hard to kill and thrive under all conditions. Ordinary insecticides hold them in check only temporarily.

In spite of numerous attempts to find a suitable insecticide for these pests, particularly mites, the results have been discouraging. Hydrocyanic acid gas does a good job but is too costly and hazardous. The ideal insecticide should give a quick kill without being too expensive and dangerous, should not taint the cheese, should not kill mould where mould growth is desired, should be effective on cheese in boxes (it would be too costly from a labor standpoint to remove cheese from each container and fumigate each separately) and lastly, should kill the eggs as well as the mites.

Household Food Articles: The household pantry is always a potential source of trouble with insects. Food materials are brought into the home from many sources, thus multiplying the opportunities for bringing in insect pests. This is especially true at this time in defense work centers where congested living conditions exist. Some of these materials may repose in a corner of the pantry shelf for months and, if not already infested, the chance of its becoming infested is almost a certainty. Flour, corn meal, breakfast foods, hams, bacons are especially liable to attack. While many of the cereal-inhabiting insects are traceable to grocery stores, warehouses and mills, others may enter the house directly such as ants, dermestids (carpet beetles and allies) and earwigs. Judging by the numerous queries received each season by housewives, it is clearly evident that the problem is of widespread importance. Most of the difficulty arises in their failure to recognize the different species of insects and a lack of understanding of their habits. The Mediterranian flour moth, Indian meal moth are confused with clothes moths in spite of their larger size and distinctive markings, and when it is considered that probably no home, over a period of years, escapes an insect infestation, the magnitude of the problem becomes all the more evident.

Regular liquid insect sprays can do much to curb losses due to household insects when the values of such sprays are more clearly understood. This calls for an intensification by insecticide manufacturers of educational material and steps in this direction have already been taken by several manufacturers. It goes without saying that the product itself must give a satisfactory performance and this hinges among other things to a large degree upon the type of sprayer used. Regardless of how satisfactory the product is, it will not give satisfaction until it can be applied properly with the minimum of effort.

Restaurants: Here the matter of insect pests is a grave problem. Even under scrupulous conditions of cleanliness roaches may exist and, during the warm season, flies and similar insects. The consumer is rightfully indignant at the finding of an insect in a bowl of soup and the presence of flies swarming over foods.

(To be concluded.)

* Cal. Ag. Sta. Bul. 343, 1922.

ROACH POWDERS . . .

Study of comparative effectiveness of insecticidal powder mixtures against the German cockroach[1]

Edward C. Klostermeyer

University of Nebraska

ALTHOUGH contact insecticides applied in the form of dusts have been long recommended for cockroach control, until recently there has been little critical information published concerning the comparative effectiveness of various dusts. The lack of uniformity in the reports of the relative toxicity of these materials denotes a need for additional information on the subject. The investigations upon which this report is based were conducted to determine under controlled conditions the relative toxicities of the more commonly used dusts to cockroaches.

Materials and Methods

The following dusts were tested: Sodium fluoride, a commercial product containing 90 per cent sodium fluoride, 2 per cent sodium acid fluoride, and 8 per cent inert ingredients; sodium fluosilicate, a technical grade 97 per cent pure; borax, a commercial grade 99 per cent pure; pyrethrum powder, a commercial grade containing 0.9 per cent pyrethrins I and II; and pyrophyllite, a commercial product trademarked *Pyrax ABB*.

Sodium fluoride, sodium fluosilicate, and borax were each tested as mixtures with pyrethrum in the following proportions by weight: 3:1, 1:1, and 1:3. Sodium fluoride was also tested in mixtures with pyrophyllite in the proportions of 3:1, 1:1, and 1:3. The dust mixtures were prepared in 10 gram quantities by shaking with stones in a small jar. They were then stored until used in tight containers in a refrigerator at a temperature of approximately 40° F. Although the exact particle size of the powders was not determined, all of those tested were fine enough to pass through a 100-mesh screen.

Adult German cockroaches (*Blattella germanica* L.) served as test insects. They were reared in battery jars at a constant temperature of 80° F. and a constant relative humidity of approximately 73 per cent. Water was provided and their food consisted of a mixture of 40 per cent ground whole wheat, 40 per cent dried skim milk, and 20 per cent dried brewer's yeast. Experimental samples were selected at random from a colony constantly numbering about 10,000 adults.

Although Tuma (1938) has shown that resistance of the German roach to contact sprays is greatest at 17 weeks of age and that results are less significant when insects of mixed ages are used, the space and time required to maintain a large stock of equal-aged roaches was prohibitive. Consequently, adults of mixed ages were used. The fact that results obtained at the beginning of the work and six months later did not differ significantly indicates that there was little variability in the susceptibility of the insects during this period of time.

The roaches were treated in a dusting apparatus of the type designed by Fisher (1939). This consisted of a bell jar, 9 inches in diameter and 15 inches high, set upon a wooden platform. Weighed amounts of dusts were introduced into the bell jar through a hole in the center of the stand by means of a glass atomizer dust gun similar to that described by Vinsant (1937). This apparatus made possible the application of uniform quantities of insecticide.

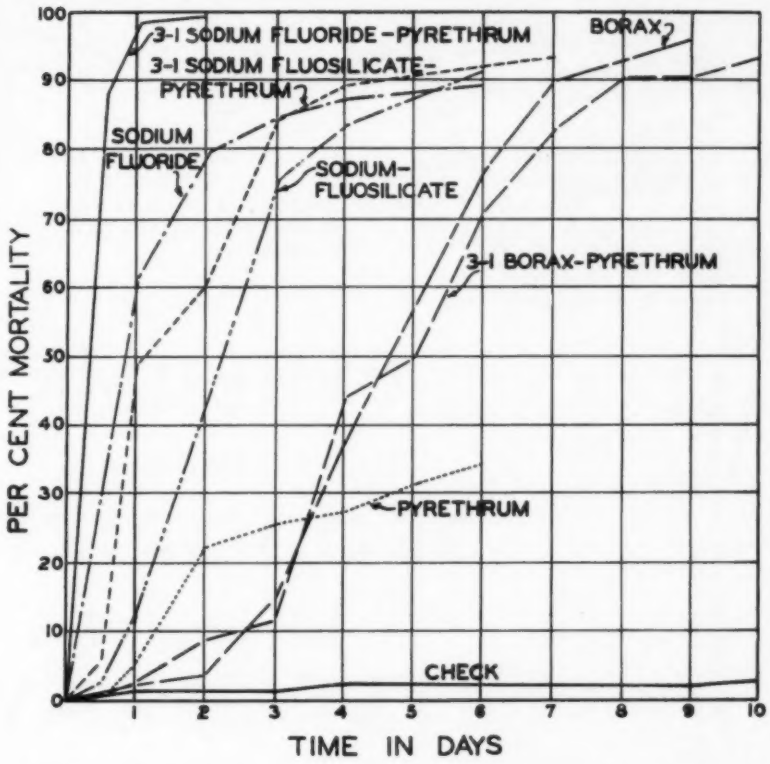
Because of the differences in density, particle size and electrostatic charge, similar quantities of dust were not deposited in the dusting chamber when identical weights of different powders were applied. Since it was not practical to wait until all of the dust had settled, it was necessary to determine by experiment the amount of each powder needed to secure a given deposit.

Each insecticide was tested on five series of 25 adult male and 25 adult female cockroaches except for the pyrophyllite combination in which the sample consisted of 15 males and 15 females. To eliminate insects which may have been injured in handling, the roaches for each replication were placed in separate pint jars 24 hours prior to testing and only individuals that appeared healthy at the end of that time were used in the tests.

In making a test, the roaches were first shaken into a testing dish which consisted of the top half of a Petri dish fitted with a two-inch cellulose acetate extension of the rim. A thin film of vaseline placed on the upper, inner edge of this rim just before using prevented escape of the

[1] Condensed from thesis prepared in partial fulfillment of requirements for degree of Master of Science in University of Nebraska, Department of Entomology. Indebtedness to Dr. H. D. Tate for many helpful suggestions during work gratefully acknowledged by the author who is now a member of the U. S. Army Air Force. Published with approval of the Director as Paper No. 320, Journal Series, Nebraska Agricultural Experiment Station, Lincoln, Neb.

insects. These containers were fitted with false bottoms of wire screening to keep the roaches from running about in the deposit and thus becoming covered with more dust than fell upon them. The test dishes were placed on the platform, covered with the bell jar, and a weighed amount of insecticide blown into the chamber at two pounds pressure. After allowing 10 seconds for introducing the dust, the roaches were subjected to the settling material for five minutes after which they were removed and transferred to pint jars. They were provided with food and water and kept for observation at a temperature of 80° F. and a relative humidity of approximately 73 per cent. The insecticides were applied at the rate of 0.38 mg. per sq. cm., a dosage equivalent to a deposit of 0.08 mg. of dust per male roach of an average weight of 55 mg. and 0.1 mg. of dust per female averaging 86 mg. in weight. Since the variation of dust deposit between replications was found to be slight, the amount deposited during each test was not determined.



Time-mortality curves for adult female *Blattella germanica* (Linne) with sodium fluoride, sodium fluosilicate, pyrethrum and borax, and mixtures.

Discussion of Results

Abbott's formula (1927) was used in computing the percentage of cockroaches killed. Corrected mortalities are summarized in table I (see pg. 109): The mortality figures are based upon the number dead at the end of 10 days.

As shown by Dewey (1942), the male cockroach was found to be much more susceptible to insecticides than the female. Because of the high mortalities, the data on the males were not suitable for statistical analysis. The dusts have, therefore, been compared on the basis of the experimental data for the females. These data were analyzed by the method of analysis of variance and the differences between certain of the treatments were found to be significant. The differences between replications were not significant.

The data (table I) (see pg. 109) showed that sodium fluoride, sodium fluosilicate and borax were of about equal toxicity to the German roach. The addition of one part pyrethrum to three parts sodium fluoride resulted in significantly higher mortality than that caused by sodium fluoride alone. However, the addition of pyrethrum to sodium fluosilicate or to borax did not increase the toxicity of these materials when based on total mortality at the end of 10 days. The addition of 75 per cent pyrethrum to sodium fluoride, sodium fluosilicate and borax resulted in a lower final mortality than was obtained when these materials were used alone. As much as 50 per cent pyropyhllite was added to sodium fluoride without significantly decreasing the toxicity of the mixture below that of sodium fluoride alone.

The different insecticides varied greatly in their rates of lethal action. As shown in the accompanying graph, mixtures of sodium fluoride and pyrethrum were the most rapid in action. Sodium fluoride killed more rapidly than pyrethrum or sodium fluosilicate while borax killed very slowly, few insects dying within a week. The addition of pyrethrum greatly increased the rate of lethal action of sodium fluoride, and also increased the rate of action of sodium fluosilicate, but scarcely affected the speed of action of borax.

Sweetman and Laudini (1942) maintain that sodium fluoride absorbed through the integument rather than that taken in by mouth is the chief cause of death of roaches dusted with this material. Observations made during the course of this investigation corroborate that assumption. It appeared that many roaches which had been dusted with sodium fluoride-pyrethrum mixtures died before recovering from the initial paralytic effect. Since it is very unlikely that any of the insecticide entered by way of the mouth under these circumstances and since the quantity of pyrethrum in the mixture was insufficient to cause appreciable mortality, it seems evident that a lethal amount of sodium fluoride penetrated the integument.

Summary

Laboratory studies conducted to determine the comparative toxicities of dusts to German roaches showed

(*Turn to Page* 109)

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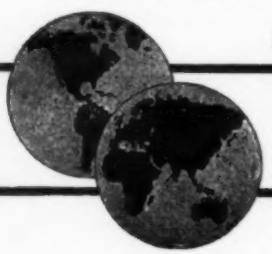


SMALL CHAMBER METHOD

for testing effectiveness of insecticides against houseflies

*By C. W. Kearns and Ralph B. March**

UNIVERSITY OF ILLINOIS

THE use of the Peet-Grady method for the evaluation of the toxic properties of organic compounds is a tedious and costly procedure. The amount of materials and labor involved to make an adequate appraisal of a compound make the method particularly unsuited to exploratory surveys upon compounds which may possess little or no practical value as insecticides but whose toxicity is of interest from a scientific point of view. It is, likewise, unsuited to an investigation of the toxicity of compounds which are hard to procure or difficult to prepare in amounts sufficient to run an adequate series of Peet-Grady tests. These objections are responsible for our efforts to devise a more simple means of making tests upon the house fly, in such a manner that the results obtained could be interpreted in terms of a Peet-Grady test.

Apparatus

A diagram of an assembled spray chamber used in our method is shown in Figure 1. This apparatus consists of a glass cylinder 26 inches long and 12 inches in diameter mounted in a horizontal position upon wooden supports. We have used two variations of this apparatus, one in which the ends of the cylinder are closed by solid wooden doors as shown in the diagram and another in which the ends are closed by screen as shown in Figure 2. The chamber doors are hinged to the wooden cylinder supports. One door has a hole 3 inches in diameter through which the flies may be introduced into the cylinder. When the chamber is used with solid doors, a sliding panel is fitted to the outside of the door to close the opening after the flies are introduced. A hinged screen opening is used where screen doors are used to replace the solid door. Each door has an atomizer mounted in it in such a position that the atomizers are directed in opposition to each other and operate at the axis of the cylinder when the doors are closed.

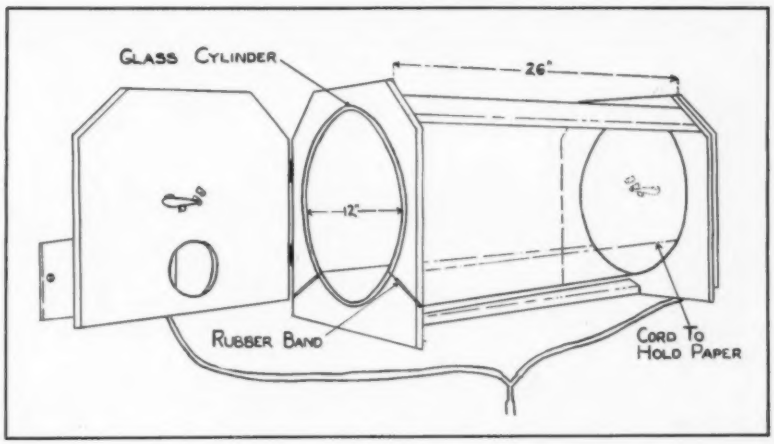
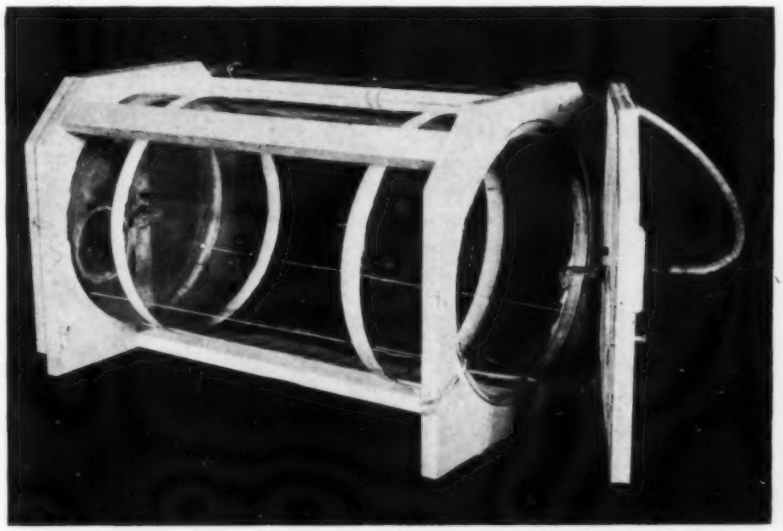


Figure I

In preliminary tests with metal atomizers of various types we found that unless the rate of delivery of the two atomizers could be adjusted exactly alike that we obtained variable results. It also seemed desirable to use an atomizer which delivered a fog type of spray in order to obtain equal distribution of the spray mate-

Figure II



* Before Natl. Assn. Insecticide & Disinfectant Mfrs., New York, Dec. 7, 1942.

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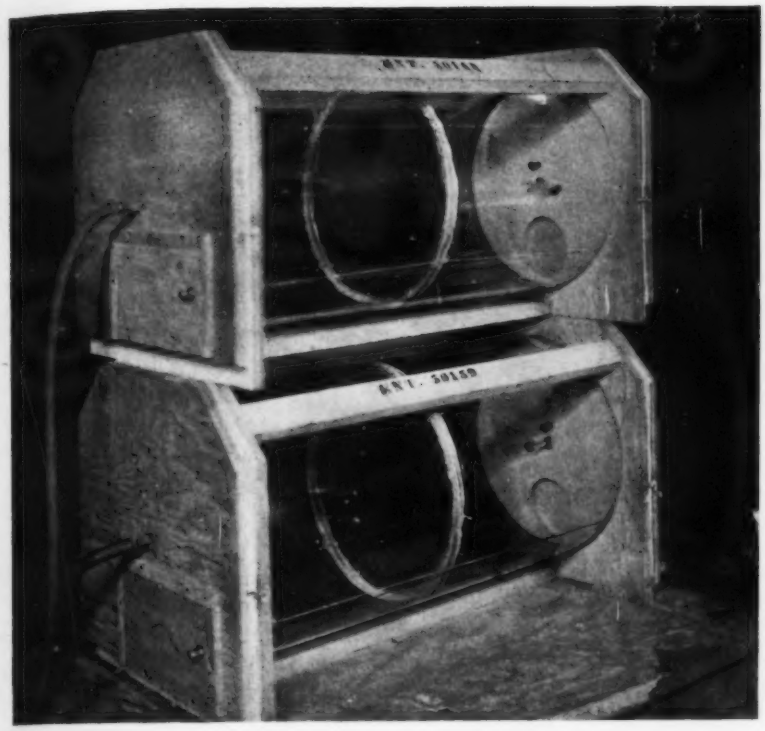


Figure III

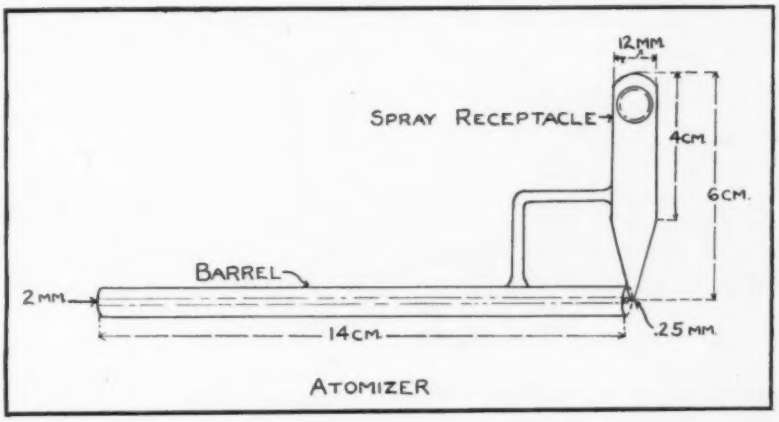
rials throughout the chamber. In our attempt to find a commercial atomizer of consistent uniformity we examined a number of different types ranging from cheap nasal atomizers to the type known as "artists' air brushes." All of these failed to produce satisfactory results principally because it was not possible to adjust them and keep them adjusted to the proper rate of delivery. The detection of this error was accomplished by dividing the cylinder into two equal halves by means of a screen partition (Fig. 3) and simultaneously treating flies introduced into each half of the cylinder. When the atomizers were perfectly adjusted for delivery rate the mortalities in the two groups of flies were within a normal error of agreement, otherwise mortality in the two groups differed greatly but was consistent in replicate tests. To obtain the desired type of spray and the uniformity, which we believe to be essential to the satisfactory operation of this method, we constructed atomizers of glass.

The glass atomizers used in our method are shown in Figure 4. The barrel, or air passage, is made of soft glass capillary tubing 14 centimeters long having a bore 2 mm. in diameter. A spray receptacle is made from a ligature tube which is heated 4 centimeters from its sealed end and pulled down to a tapered thick-walled tip of dimensions approximating those given in Figure 4. The bore in the tip of the receptacle should be about .25 mm. in diameter. The receptacle is attached to the barrel by means of a right angled glass support rod, fused to the two parts as shown in the figure. The distance between the bore of the receptacle tip and the center of the barrel tip should be about 2 mm. in the completely assembled atomizer. The atomizer is checked for its trueness to spray along the axis of the atomizer barrel. Any correction necessary may be made by reheating the solid glass support rod of the receptacle so that the tip of the receptacle may be moved and set in a position necessary to accomplish the correction.

In order to adjust the rate of delivery of the atomizer, 1 cc. of refined kerosene is placed in the receptacle which is held in a position slightly below horizontal as shown in figure 5. A stream of compressed air under a pressure of 12 pounds per square inch is then directed through the atomizer barrel and the barrel rotated about 90° to bring the receptacle into an upright position. The time required to atomize 1 cc. of the oil is determined by a stop watch having 1/5 second graduations. All of our atomizers are adjusted to deliver this amount in 7 ± 1/5 seconds. The rate of atomization may be corrected by filing minute portions off the receptacle tip if the rate is too slow or by cautiously flaming the receptacle tip with a pencil pointed torch if the rate is too great.

The atomizers are mounted in the doors of the chamber so that they will operate in opposition to each other. Each door is equipped on its inside with two stops (Fig. 5, loading and spraying stops) so placed that they will hold the atomizer receptacle in a slightly

Figure IV



lower than horizontal position during the loading and again stop the atomizer receptacle when it is rotated to the vertical position during the spray delivery. By this procedure all the spray loaded into the atomizer is delivered into the chamber except for a minute amount which clings to the walls of the receptacle and cannot be removed by the combined forces of suction and gravity which are utilized in delivering the spray.

Compressed air under a pressure of 12 pounds per square inch is used to operate the atomizers during a test. The air is delivered simultaneously to each atomizer through two pieces of rubber tubing of equal length attached to a Y joint in the main air line. The air is shut on and off by means of a spring valve placed in the main air line on the floor in a position convenient for the operator to reach with his foot.

Paper towels are placed in the bottom of the chamber to absorb the spray deposit before the flies are introduced. The paper towels are held in place by two pieces of cord stretched the length of the cylinder and attached to rubber bands fastened to the chamber supports (Fig. 1).

The flies used in our method are reared to the pupal stage in the same manner as prescribed for the Peet-Grady testing procedure. In our method the pupae from a culture jar or a group of culture jars prepared upon the same day are weighed out in lots of about 125 and placed in 14-mesh bronze screen cages (Fig. 6) made from jar lids.[1] These cages are 3¼ inches in diameter and 6 inches in height. The bottom of the cages are soldered to the side walls but the tops are removable. The screen top of each cage has a hole ⅝ inch in diameter cut in it to permit the introduction of the feeding tubes, one of which is shown in detail in (Fig. 6). About 10 cc. of a 25 per cent water solution of condensed milk is placed in the tube at 12-hour intervals while the flies are emerging and aging to the proper testing day. Following a test the flies are returned to the cages and

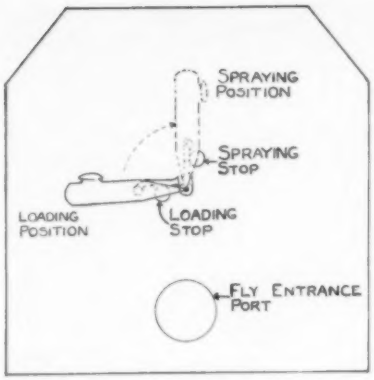


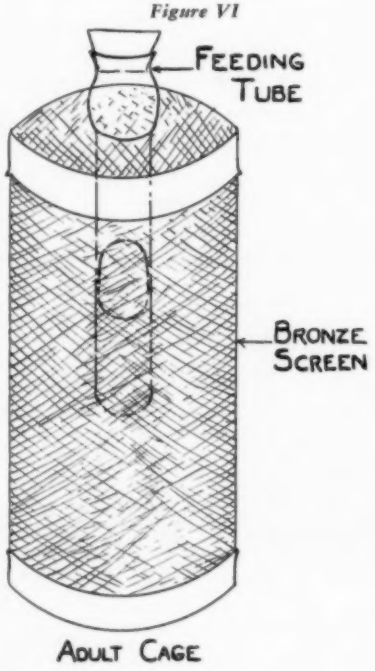
FIGURE V

fed a 10 per cent sugar-water solution in the same manner in which the milk is supplied.

Method of Operation

Each atomizer is loaded with the proper amonut of the solution to be tested. Four tenths of a cc. is used in each atomizer of the chamber with the solid door, and 0.6 cc. is used in each atomizer of the chamber with the screen doors. The chamber doors are then closed and firmly latched. A group of 100 to 125 flies are then released into the chamber through the door port: each group of flies coming from individual cages. The air valve is then opened and the barrel of each atomizer is simultaneously rotated to bring the atomizer receptacles into a vertical position to start the spraying. About three seconds are required to deliver the total dosage in a finely atomized form, which is rapidly distributed uniformly throughout the chamber. Where the screen doors are used in the small chamber, air is allowed to continue to flow through the atomizers until all the spray materials are evacuated from the atomizer. At the end of ten minutes the paralyzed flies are picked up, counted and returned to the cages. The percentage of dead flies is determined for each group of flies 24 hours later.

Figure VI



Certain variations in both the method of operation and construction of the chamber might be adopted to advantage, where the chamber with solid doors is used. We have considered the possibility of introducing the flies into the chamber immediately after the spray was applied. This can be easily accomplished by placing a swinging metal door over the port opening on the inside of the chamber door. A fly cage with its open end poised in the door port may be pushed part way into the chamber, opening the port door and thus releasing the flies into the spray chamber. We have not attempted to run enough tests to determine the value of this procedure because it was apparent that we should have to increase the volume of spray beyond the 8 cc. dosage, which customarily produces a median percentage mortality in flies treated with the official test insecticide,[2] and would thereby decrease the value of the method from our point of view.

Experimental

In order to compare the results of tests made in both variations of the small chamber with those obtained from the Peet-Grady chamber we made ten replicate tests by each method on a single concentration of three different compounds, which were selected because they differed greatly in physical properties and all were known to be toxic to house flies. Each series of tests involved a single test of each com-

(*Turn to Page* 128)

[1] Cages made from directions and samples submitted by L. H. Shropshire, Dodge & Olcott Co., New York.

[2] Refined kerosene containing 1 milligram of mixed pyrethrins per cubic centimeter.

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THIOCYANATE COMPOUNDS

for pea aphid control

*By H. F. Wilson and E. J. Campau**

ALL thiocyanate compounds are known to be quite toxic to insects, but since they are also toxic to plants if applied in high concentrations, care has to be used with the dosage for different plants. Some plants are easily injured while others are not. Greenhouse tests with Lethane 60, Loro, and Thanite show that they are quite toxic to the pea aphid. Field experiments have shown that Lethane 60 and Loro give added toxic values to mixed dusts containing low concentrations of rotenone. We have not tested Thanite in the field.

The series of tests given in this report, although preliminary in nature, indicate strongly that dust mixtures containing .1 to .25 per cent rotenone and 2 per cent Lethane or 1 to 2 per cent Loro are comparable with dust mixtures containing .75 per cent rotenone and 1 per cent SAE10 lubricating oil.

A preliminary field test in 1941 and greenhouse tests indicated that two per cent Lethane 60 and .1 to .25 per cent rotenone with added oil was comparable to dust mixtures containing .75 to 1 per cent rotenone and 1 per cent SAE10 lubricating oil.

Data from the preliminary experiment made June 17, 1941, are included in the table below.

These records were taken on June 26, nine days after the treatments were applied and the check counts had dropped from 120 on June 19 to 71 on June 26. Predators were abundant in this field at the time of treatment and continued in the check. Many predators were killed in the treated plots with the dust mixtures and it was believed that this condition was responsible for the high reduction in the check. There was not much fungus in the field and with an average of 71 per sweep in the check it is believed that the per cents of control are comparable for showing that Lethane 60 with .25 per cent rotenone gave control equal to 1 per cent rotenone and 2 per cent soybean oil. If the Lethane dust mixtures had contained added oil, their toxicity might have shown even a higher degree of control.

Table I. Pea aphid control 2 to 5 days following the application of rotenone dust mixtures with and without Lethane 60. Replicates 1 to 3 were taken from experiment 3 and replicate 4 from experiment 4 of the field trials on June 8, 1942.

Material	*Pounds per acre*	*Per cent rotenone*	*Per cent SAE10*	*Per cent control*
Cubé-pyrax	30	.75	1	87
Cubé-pyrax	33	.5	1	86
Cubé-pyrax	32	.25	1	80
Cubé-pyrax	30	.1	2	72
Lethane 60-pyrax	36	.25	1	88
Lethane 60-pyrax	34	.1	1	84

Table II. Effect of adjuvants and rotenone content of cubé-pyrophyllite dust mixtures applied June 9, 1942, for pea aphid control.

Material	*Replicates*	*Avg. Lbs. per acre*	*% Rotenone*	*% SAE10*	*% control*
Cubé-pyrax	4	72	.25	4	94
Loro—1½%	3	64	.25	1.5	95
Lethane 60-2%	2	69	.25	1	93
Lethane 60-2%	1	75	.1	1	93
Propylene laurate	4	60	.1	1.5	92
Propylene laurate 1% Nicotine Sulfate .5%	0	68	.1	1.5	92

In 1942 two field experiments were made with dust mixtures containing Lethane 60. Cubé-pyrax mixtures containing .1 to .75 per cent rotenone with oil were used for comparison with Lethane 60, 2 per cent, and .1 and .25 per cent rotenone. The comparative data is shown in tables I to III.

Discussion. The evidence seems quite conclusive in showing that Lethane 60

2 applications of .1% Rotenone, 2% Soybean Oil, 69% control
2 applications of .1% Rotenone, 1% Soybean Oil, 61% control
2 applications of .25% Rotenone, 1% Soybean Oil, 70% control
1 application of .5% Rotenone, 1% Soybean Oil, 66% control
3 applications of 1% Rotenone, 2% Soybean Oil, 72% control
2 applications Lethane 60, 2%- .25% Rotenone, 77% content
1 application Lethane 60, 2%- .1% Rotenone, 67% control
1 application Lethane 60, 4%-1% Rotenone, 72% control

* Through the kindness of the administrative staff of the U. S. Bureau of Entomology and Plant Quarantine, Mr. L. B. Reed helped with the field experiments in 1942 and also assisted in arranging the data from which the field records were taken. Unrelated data in some of the field experiments have been omitted as unnecessary for this paper.

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Table III. A comparison of dust mixtures containing different per cents of rotenone, nicotine, and Lethane, applied June 16, 1942.

Per cent of rotenone	Material	Rate acre per	Experiment 6 Per cent control in indicated block A	B	C	D	Average	Experiment 7 % control	Avg. of 4 replicates
0.5	Cubé-pyrophyllite-1% Soybean oil	35	64	—	65	55	61	74	65
0.5	McConnon dust 180-A	43	79	70	—	78	76	88	79
None	4% Lethane 60-pyrophyllite	39	63	46	—	66	58	64	60
0.25	Cubé-pyropyhllite-2% Lethane-1% SAE10	38	66	75	—	56	66	87	71
0.25	Cubé-pyrophyllite-2% nicotine sulfate-1% SAE10	55	57	60	44	—	54	77	60
None	4% nicotine sulfate-pyrophyllite	71	38	—	38	23	33	57	39
0.375	Lilly's dust containing 1.7% nicotine alkaloid, 10% sulfur-10% molasses residue	41	69	63	—	52	62	96	70
0.1	Cubé-pyrophyllite-2% Lethane-1% SAE10	31	—	70	—	75	73	78	74
0.5	Beinhart's dust 95 containing 1.9% nicotine alkaloid	40	—	72	71	67	70	92	76
0.25	Beinhart's dust No. 83 1.46% nicotine alkaloid	47	—	62	71	50	61	82	66
0.5	Beinhart's dust No. 84 2.36% nicotine alkaloid	39	—	72	83	70	75	86	75
0.75	Cubé-pyrophyllite 1% SAE10	—						88	

has in this case increased the toxicity of dust mixtures containing .1 per cent and .25 per cent rotenone with added oil.

Table II shows a second experiment not so conclusive in which an attempt was made to compare a series of adjuvants which had shown significant indications of increasing toxicity with low concentrations of rotenone. A completely satisfactory comparison of the data is not possible because of the high amounts of dust mixture applied and too few replications. However, comparable greenhouse tests show that the three replicates of Loro and two of Lethane 60 are comparable with eight replicates of propylene laurate as indicated later.

Discussion. It was not intended to apply as much dust as went on in these tests and the only comparison that can be made is to the effect that the addition of 4 per cent SAE10 oil to rotenone dust mixtures may increase the toxicity of rotenone comparable with Lethane 60 and propylene laurate.

The results of a third experiment in which Lethane was used are given in table III.

The results of this experiment give a better comparison between Lethane 60 dust mixtures and other types used or recommended for pea aphis control. Several different comparisons might be made but the purpose of this paper is only to show that the available supply of rotenone might be farther extended by using lower concentrations of rotenone with additives during the war period if necessary. Lethane 60 alone is shown to have considerable toxic value in what was a severe test because when these tests were started at 8 o'clock in the morning the temperature was 62° F. and had risen only to 70° F. when the last application was made. Both dust mixtures containing .1 per cent and .25 per cent rotenone compared favorably with .5 per cent rotenone and 1 per cent SAE10 lubricating oil. Lethane 60, 2 per cent, and .25 per cent rotenone appeared as good as .75 per cent rotenone and 1 per cent SAE10 in the one application where the latter was used. Nicotine-rotenone dust combinations containing .5 per cent rotenone and 2 per cent nicotine did not appear significantly better for the entire series.

Greenhouse tests with thiocyanates

IN the greenhouse tests seven samples of field-mixed dusts were used. These were mixed in 200-pound lots May 22, 1942 and as soon as they were ready, two-pound samples were placed in plain paper bags and held until the laboratory tests were made. The replicates consist of single plants in No. 2 cans each infested with 15 adult aphids ready to start producing young. Each was replicated three or four times. In comparing dust mixtures it seems important not only to record the control of adults but also the number of young remaining. In our tests if an average of more than 10 young per plant remain consistently, we believe a dust mixture is unsatisfactory for field trials. Very seldom do adult aphids not producing in 72 hours start producing again, although they may remain alive for a week.

The results obtained with Loro and Thanite are not comparable with Lethane 60 because most of the tests with these materials were made with .5 of a gram of dust while the tests with Lethane 60 were made with only .3 of a gram in dusting each plant. It is also believed that both Loro and Thanite are more highly concentrated because some plant injury seemed to be present with Loro, and Thanite caused definite injury.

The data is presented only to show that thiocyanate compounds are important in increasing the toxicity of rotenone dust mixtures. It is intended to continue these investigations with higher concentrations of rotenone. The greenhouse temperatures were relatively low, being consistently between 65 to 70° F. The relative humidity varied from 40 to 60 per cent. Each plant was dusted separately under a bell jar and removed immediately and covered with a screen cage to prevent loss of individual aphids.

Discussion. Occasionally some peculiarity develops in a single dust mixture which causes it to make a poor showing and much remains to be done in learning how to put dust mixtures together. It is also necessary to have a specific standardized dispersing agent and added knowledge is needed on the

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Summarized data of a series of greenhouse tests with three thiocyanate compounds

Purpose: To secure comparative data between variable concentrations of Lethane, Loro, and Thanite alone and with variable concentrations of rotenone and oil.

Replicate	Material	%	% Rotenone	% SAE 10	% Control	Avg. No. Young Left Per Replicate
9	Lethane 60[1]	4	—	—	82	13
9	Lethane 60	4	.05	—	79	22
9	Lethane 60	4	.05	2	93	4
9	Lethane 60	3	.05	2	76	20
9	Lethane 60	3	.05	2	81	8
9	Lethane 60	2	.05	—	56	56
9	Lethane 60	2	.05	2	78	19
9	Lethane 60	2	.1	1	85	25
9	Lethane 60[1]	2	.25	1	91	5
9	Lethane 60	1.5	.25	1	91	5
9	Lethane 60	2	.4	—	40	64
9	Lethane 60	2	.4	2	90	3
9	Propylene Laurate[1]	1.5	.1	1.5	90	10
9	Propylene Laurate, 1% Nicotine Sulfate[1]	.5	.1	1.5	91	9
9	Thanite	2	.1	1	96	7
8	Loro	2	.1	1	100	0
9	Cubé-pyrax[1]	—	.1	2	58	47
9	Cubé-pyrax[1]	—	.75	1	90	10
5	Lethane 60 Nicotine Sulfate[1]	.5 .5	.1	1	63	38
5	Loro	2	.05	—	91	8
5	Loro	2	.05	1	99	0
5	Cubé-pyrax	—	.1	1	40	70
2	Lethane 60 Nicotine Sulfate	2 2	.1	1	80	32
2	Lethane 60 Nicotine Sulfate	1 4	.1	1	90	7

[1] Field-mixed dust.

characteristics of the toxic agents and adjuvants. As an example, the dust mixture containing 4 per cent Lethane 60 and .05 per cent rotenone did not show as well as 4 per cent Lethane alone. When 2 per cent SAE10 was added, the toxicity was greatly increased. The dust mixture containing 2 per cent Lethane 60 and .4 per cent rotenone was made last winter in the Rohm and Haas laboratories. In spite of the fact this dust mixture contained a very high concentration of rotenone compared with other dust mixtures used, this dust was consistently poor. When 2 per cent SAE10 lubricating oil was added, an immediate increase in toxic values developed.

It has been found that if additives are placed with the ground cubé or derris and then added to the dispenser, the toxic values of a dust mixture are usually less than if the powdered cubé or derris are first mixed together and then oil or adjuvants added.

These tests clearly indicate that added oil is important. Other adjuvants also seem to be important as shown by the results obtained by propylene laurate which has given equally good results in field tests. K-58, a Dow Chemical Company product and a special Shell Oil product have given strong indications of being worthwhile additives.

Roach Powders

(*From Page 99*)

that sodium fluoride, sodium fluosilicate, and borax were about equally toxic. Pyrethrum was comparatively low in toxicity. The addition of pyrethrum increased the toxicity of sodium fluoride but not of sodium fluosilicate or borax. All mortality readings were based on the number dead at the end of 10 days.

The dusts tested, in the order of their rates of lethal action were: mixtures of sodium fluoride and pyrethrum; sodium fluoride; mixtures of sodium fluoride and pyrophyllite; mixtures of sodium fluosilicate and pyrethrum; sodium fluosilicate; pyrethrum; mixtures of borax and pyrethrum, and borax.

Literature Cited

Abbott, W. S. 1925. A method of computing the effectiveness of an insecticide. Jour. Econ. Ent. 18: 265-267.

Dewey, J. E. 1942. The relative effectiveness of dust mixtures against the German cockroach. Jour. Econ. Ent. 35: 256-261.

Fisher, R. A. 1939. A dust delivery tube for laboratory experiments with contact insecticides. U. S. Dept. Agr., Bur. Ent. and Plant Quar. ET-151.

Sweetman, R. L., and H. Laudini. 1942. A study of the toxic action of sodium fluoride on roaches. Soap and San. Chem. 18(4): 90-93.

Tuma, V. 1938. Roaches. A study of the relationship between the ages of cockroaches and their resistance to insecticides. Soap and San. Chem. 14(6): 109-111.

Vinsant, J. P. 1937. An apparatus for dusting individual plants. U. S. Dept. Agr., Bur. Ent. and Plant Quar. ET-105.

Table I. Toxicity of sodium fluoride, sodium fluosilicate, pyrethrum and borax to the German cockroach, *Blattella germanica* (Linne).

Material	Mean per cent mortality* Total	Males	Females†
3:1 Sodium fluoride-pyrethrum	99.6	100.0	99.2
1:1 Sodium fluoride-pyrethrum	99.2	100.0	98.4
Borax	97.5	100.0	95.0
3:1 Borax-pyrethrum	96.9	100.0	93.8
3:1 Sodium fluosilicate-pyrethrum	96.7	100.0	93.4
Sodium fluosilicate	95.7	100.0	91.2
1:1 Borax-pyrethrum	69.9	90.0	89.8
Sodium fluoride	94.8	100.0	89.6
1:1 Sodium fluosilicate-pyrethrum	94.4	100.0	88.6
1:3 Sodium fluoride-pyrethrum	93.0	100.0	86.0
1:1 Sodium fluoride-pyrophyllite	92.6‡	100.0	85.2
1:3 Sodium fluosilicate-pyrethrum	90.4	100.0	80.8
3:1 Sodium fluoride-pyrophyllite	88.4‡	100.0	76.8
1:3 Sodium fluoride-pyrophyllite	84.3‡	100.0	68.6
Pyrethrum	54.4	77.2	31.6
1:3 Borax-pyrethrum	43.4	63.4	23.4
Pyrophyllite	20.9	28.4	13.4
Check	6.4	9.8	3.0

* Per cent of mortality is based on the number dead at the end of 10 days.
† Difference between means required for significance at odds of 19-1 is 9.55%.
‡ Percentages based upon 150 insects; all others based upon 250 insects

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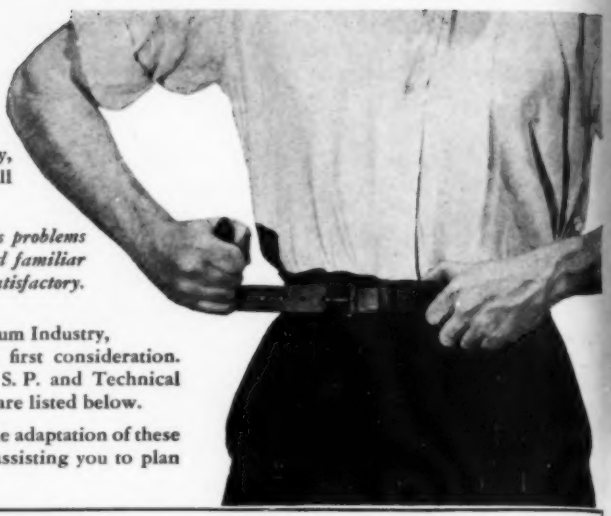

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INSECT CONTROL ON AIRCRAFT

By Dr. G. L. Dunnahoo*

Surgeon, U. S. Public Health Service

ATTENTION was first focused on the problem of transporting insects in aircraft by Dr. Thomas Griffitts in 1931. He marked a number of mosquitoes with dye, released them in a plane and some were recovered in good condition at the end of the flight. In 1935 Drs. Williams and Dreessen described the problem and recommended a concentrated pyrethrum spray as a suitable insecticide. Since then there has been a constant search to improve methods of disinfestation of planes. Various gases and synthetic preparations have been tested in the laboratory, but the pyrethrum compounds better meet all requirements for aircraft work than any other known insecticide. These requirements include the factors of high toxicity to insects and practical harmlessness to man. There must be no fire hazard and any material that would leave an odor or damage ship fittings would be objectionable.

In 1937, after a period of preliminary experiments it was decided that the best method of disinfestation was by using hand spraying apparatus during flight, prior to arrival at the port it was intended to protect. While this measure was theoretically sound, its success was dependent upon flight personnel and without the supervision of a quarantine official.

In July 1939 an experimental disinfestation base was established at Trinidad, in the principal air route from South America. A special pressure feed type of power spraying apparatus developed by the Public Health Service was used. The insecticide consisted of a 20 per cent mixture of standard pyrethrum extract No. 20 carried in a vehicle designed for the purpose. The mixture was finely atomized throughout all interior compartments of the plane, not earlier than thirty minutes prior to the take-off. All hatches to the exterior were kept closed for not less than ten minutes. After approximately one year's trial, inspection records at San Juan, the next port of call, indicated the method was effective and practical. To have better controlled conditions and to cover all air routes from South America, sanitary inspectors were detailed to complete disinfestation and inspection stations as follows:

Disinfestation Station
Trinidad, B.W.I.
Maracaibo, Venezuela
Barranquilla, Colombia

Inspection Station
San Juan, Puerto Rico
Port au Prince, Haiti
Kingston, Jamaica

These stations were maintained from November 1, 1940 to June 30, 1941. At the end of this period designated employees of Pan American Airways were trained to do the work and the Public Health Service inspectors were recalled.

Summarizing the inspection reports gives the following results:

		Trinidad		*Maracaibo*		*Barranquilla*	
Number of planes treated		102		35		71	
Number of living insects seen before disinfestation		*Insects*	*Mosquitoes*	*Insects*	*Mosquitoes*	*Insects*	*Mosquitoes*
		No report made		1680	5	182	15
Results of inspection at next port of call	Living	39	1	12	1	0	0
	Dead	176	17	620	3	113	8
	Total	215	18	632	4	113	8
Results of inspection at Miami	Living	18	0	11	0	9	0
	Dead	161	10	142	3	58	5
	Total	179	10	153	3	67	5

* Paper before 29th annual meeting, Natl. Assn. of Insecticide & Disinfectant Mfrs., New York, Dec. 8, 1942.

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17 Plants At Your Service

During this eight month period, only two live mosquitoes were found on the 208 planes from South America. Tabulation of the inspection reports for the years 1939-1940 and 1941 show no living Aedes Aegypti or yellow fever mosquito has been found on a plane entering at Miami.

The entire process of disinfestation of planes formerly took approximately fifteen minutes, immediately prior to departure. Experiments were undertaken to improve the insecticide in order to reduce the time of application and increase the kill on the more resistant insects. It was found that the quantity of pyrethrum necessary to give a 100 per cent kill of Aedes Aegypti mosquitoes remained fairly constant, regardless of the strength of insecticide prepared. In order to reduce the quantity of oil introduced within the plane, standard pyrethrum concentrate was used without dilution. With power spraying apparatus producing a fine atomization, a 100 per cent mosquito kill resulted when the pyrethrum extract was introduced at the rate of 5 cc. per 1,000 cubic feet and the plane kept sealed for two minutes. If hand spraying apparatus were used, it was found necessary to increase the pyrethrum quantity to 8 cc. to compensate for coarse atomization and poor dispersion.

An obvious method of protecting a localized area from insects brought in by plane is to fumigate thoroughly immediately on arrival and before passengers or cargo are discharged. If urban yellow fever should develop along the air routes, this additional measure would be placed into effect immediately for the protection of the United States. Flight personnel and passengers are required to comply with the quarantine laws of several countries during a day's flight. Pan American Airways officials have issued orders that all planes are to be disinsectized between all ports. The freon gas method of projecting pyrethrum was adopted. Twenty per cent pyrethrum extract is mixed with dichlorodifluoromethane (freon) in the container to obtain a 2 per cent pyrethrins mixture.

A commercially available sprayer was adapted as a refillable type of dispenser. This container is used in two sizes, a small one holding 200 grams of the mixture, and a larger container holding approximately six or eight times as much. The smaller container will hold sufficient pyrethrum to disinsectize sixteen times a plane of the S43 type. Release of the thumb pressure valve permits the gas to escape at a rate that will give practically 100 per cent mosquito kill in three seconds per 1,000 cubic feet and two minutes' exposure time. These dispensers have been in use approximately five months and have proven very satisfactory. The small size is used for spraying during flight, and the large size is used for final spraying on the ground at the port of arrival.

Refilling is accomplished simply and rapidly. A measured quantity of the new purified 20 per cent pyrethrum extract is poured into the empty container. The cap is tightened and filling completed with a pre-determined quantity of freon gas. The master cylinder of gas is placed on scales. The weights are adjusted for the amount of gas required. Filling is accomplished through the type of valve used in ordinary automobile inner tubes and by means of a flexible rubber hose. When the scale beam tilts, the container is full.

The effectiveness and convenience of this method of pyrethrum dispersion is proven. The developers, Goodhue and Sullivan, of the U. S. Department of Agriculture, call the spray aerosols. The basic principle is patented under application dated June 23, 1930, and assigned a large American corporation. Several firms are working on the development of refillable and disposable types of containers. When the necessary materials become generally available again, it seems probable that there will be a general use of the freon method of projection of the pyrethrins.

Rotenone Smoke

A method is employed for dispersing rotenone, rotenone-bearing resins, compounds related to rotenone and the resin from which the rotenone has been removed, which consists in depositing a solution of any of these insecticides onto a surface heated at 300-500° C., thereby releasing the insecticides in the form of a smoke. This furnishes a method for combating flies, etc. Wm. N. Sullivan and Lyle D. Goodhue, to the People of the U. S. for free use. U. S. Patent No. 2,285,950.

Carnauba Wax Production

Exports of carnauba wax from Brazil mounted steadily until the recent shipping difficulties occurred. However, increased production is promised not only by recent large plantings, but by the introduction of more scientific extraction methods. In Ceara, a factory has been established which uses machinery imported from the United States exempted from duty by the Brazilian Government.

The Ministry of Agriculture has aided in the introduction of an extractor, or leaf-beater, invented by a Piauhy industrialist. Simple, cheap, and adapted to small-scale industry, the machine saves labor and is said to increase by 30 per cent the amount of wax extracted from the leaf. Industrial uses of carnauba wax are still expanding. *Chem. Trade J. & Chem. Engineer* 111, 408 (1942).

Pine Oil Disinfectant

A pine-oil disinfectant fluid which should have a Rideal-Walker coefficient of three contains the following:

	Parts by weight
Pine oil	1000
Rosin	400
Caustic soda, 25% solution	200

Heat the oil and rosin to 80° C. in a steam-jacketed pan. When the rosin has melted completely, let the temperature drop to 60° C. and stir in the caustic solution gradually. Saponification should take about 30 minutes.

With some grades of pine oil this formula gives a product with a coefficient of 3.5. The product should in any event, be tested. If the oil is of a poor grade, some added antiseptic such as thymol may be used to boost the coefficient. *Manufacturing Chemist* 13, 283 (1942).

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Pyrethrum Outlook Clouded By Acute Rotenone Shortage

THE 1943 outlook for pyrethrum which took on a more favorable light two months ago as far as manufacturers of insect sprays were concerned, has again become clouded. Based on most recent opinions in the trade and in Washington,—that is as late as Jan. 30—any pyrethrum which might have been available for the manufacture of regular fly sprays for civilian use over the balance of 1943, will be absorbed wholly to meet agricultural needs as a direct result of the rotenone shortage becoming more acute. In short, the outlook now is for *no* pyrethrum for civilian insect spray manufacture this year. Such household sprays as are manufactured for civilian use will have to depend wholly on synthetics where these are available.

These were conclusions drawn after a meeting of pyrethrum importers and processors in Washington on Jan. 22 and subsequently confirmed by events. Agriculture alone will require some 7,000,000 pounds of pyrethrum in 1943, according to Department of Agriculture estimates. This increased estimated requirement grows partly out of a loss by sinking of 300 tons of cube root en route from South America earlier in January. This loss was estimated to approximate between 20 and 25 per cent of the visible supply for 1943 which had been placed at 1,400 to 1,500 tons of rotenone roots prior to this loss. But even with a balance of 1,000 to 1,200 tons of root, some seven million pounds of pyrethrum will be required by agriculture to fill out where rotenone would ordinarily be used.

On top of greatly increased agricultural needs, the figure for the armed forces, including the U. S. Public Health Service, still stands close to 8,000,000 pounds of pyrethrum as estimated early in January. For the manufacture of aerosol sprays, about 1,800,000 pounds will be needed this year to allow for a production of 150,000 small spray units per month. Army louse powder, the demand for which is indicated to have increased far beyond original estimates of last year, will take some 2,900,000 pounds of pyrethrum flowers. This means something like 3,000,000 two-ounce cans per month through 1943 or 36,000,000 for the year. Actually, the requirement here would be about 22,500 pounds of the 20 per cent pyrethrum concentrate or the equivalent of 2,900,000 pounds of 1.3 per cent flowers. For mosquito control and other work of the Public Health Service, about 525,000 pounds of flowers will be needed. Regular oil sprays and concentrates for the Armed forces will take the equivalent of 2,800,000 pounds of pyrethrum.

Although these figures add up to 8,000,000 pounds, it is believed that the louse powder estimate is high and might be cut as much as a million pounds. It is also believed that by the use of synthetics in some oil sprays as well as activators, the pyrethrum might be extended to the point of saving another million pounds. But even with these savings,—and reports on the needs for louse powder vary widely and some even indicate that it may be much greater than the figures given above,—the total pyrethrum adds up to 13,000,000 which is just about the total importations expected for the year.

In short, agriculture and the armed forces alone will take all available pyrethrum this year,—if they can have it. But there are also figures in original estimates that call for Lend-Lease shipments of 1,250,000 pounds according to the British Purchasing Commission. Establishment of pyrethrum extraction plants in Kenya and expansion of the plant capacity in India may cut this estimate, but if the flowers are used for extraction in Kenya, that much less will be available for shipment to the U. S. Export shipments to South America of 500,000 pounds are called for under the terms of an agreement with the British Raw Material Supply Commission by which Latin American needs are to be filled by the United States.

Estimates made early in January gave a figure of 4,000,000 pounds which would be available this year for use by American agriculture, protection of stored foods, stock sprayers, pest control operators, and civilian household fly sprays. But with agriculture taking all of this and more besides, it would appear that none will be left for the other uses indicated. Needs which will receive last consideration, according to the listed order of importance, are household insect sprays followed by pest control operators.

As the figures stand now, the total pyrethrum needed in 1943 by all "essential" uses, armed forces, agriculture, Lend-Lease, protection of stored foods, etc., will amount close to 17,000,000 pounds. Naturally, all of these "essential" uses totaling this amount cannot be filled from an estimated total importation of 12,800,000 pounds. As of Jan. 1, it was estimated that 1,000,000 pounds were on hand in the U. S., that 13,600,000 pounds would be forthcoming from Kenya this year, and 1,400,000 pounds from other sources principally the Belgian Congo. (Board of Economic Warfare through U. S. State Department has arranged trade agreement with Belgian Congo calling for 2,900,000 pounds, but it is believed that not more than half of this will be shipped in 1943.) But from this total of 15,000,000 pounds expected to be shipped, over 3,000,000 pounds have been allowed for submarine losses based on experience of the last six months. Add to this, the 1,000,000 pounds on hand here Jan. 1 and it totals less than 13,000,000 pounds. From this, a demand of 17,000,000 pounds of essential uses alone is hoped to be filled.

Sanitary Suppliers Meet May 17

The National Sanitary Supply Association has set May 17, 18 and 19 as the dates for its 1943 annual convention. Marshall L. Magee, of the T. F. Washburn Co., Chicago, president of the organization, states in his advance announcement that it will be held at the Morrison Hotel in Chicago.

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NEWS

O-Cedar Sells Chicago Plant

O-Cedar Corp., makers of mops and sanitary products, has sold its twenty-year-old Chicago plant at Western Blvd. and 45th St. and will move to larger quarters at 49th St. and Oakley Blvd., as soon as present tenants vacate. The new location contains 160,000 sq. ft. of manufacturing space and was purchased for $240,000, according to deeds filed with the county recorder.

Amer. Home Advances Ide

Knox Ide, vice-president and secretary of American Home Products Corp., Jersey City, N. J., has just been elected by the directors of the company to the newly created position of executive vice-president. He will act as administrative executive to Alvin G. Brush, chairman of the board. Before becoming an official of American Home Products in 1936, Mr. Ide practiced law with Rogers, Ramsay & Hoge of New York.

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Phinotas Chemical Suspends

Phinotas Chemical Co., New York, manufacturers of insecticides, disinfectants and sanitary products, have suspended operations for the duration of the war.

—— • ——

Form Pyrethrum Group

A pyrethrum processors industry group has been formed and industry members were named on January 27, by Warren H. Moyer, chief of the insecticides and fungicides division, Chemicals Division of the W.P.B. Those named from the industry include: W. E. Dermody, Gulf Oil Corp., Pittsburgh; C. B. Gnadinger, McLaughlin Gormley King Co., Minneapolis; L. P. Jones, McCormick & Co., Baltimore; Harold King, R. J. Prentiss & Co., New York; R. P. Neptune, Allaire-Woodward & Co., Peoria, Ill.; J. B. Rosenfield, Anfo Mfg. Co., Oakland, California; H. F. Seeland, Stanco, Inc., Elizabeth, N. J.; J. C. Stirton, Standard Oil Co. of California, San Francisco; R. B. Stoddard, Dodge & Olcott, New York; Dr. Alfred Weed, John Powell & Co., New York, Harold Noble, S. B. Penick & Co., New York.

—— • ——

Cleared in Bug Powder Deaths

A. B. McKillop, assistant cook, and Mrs. Mary O'Hare, head cook of Oregon State Hospital have been cleared by a county grand jury in the roach powder poisoning that killed 47 State Hospital patients and made 400 others ill on November 18. The Marion county jury returned no true bills against McKillop, who was charged with manslaughter, and Mrs. O'Hare who was charged with withholding information from the police.

M. M. Marcuse, chairman of the Board of the West Disinfecting Co., Long Island City, completed 40 years with the company on February 1. He was succeeded several years ago as president of the firm by his son, James Marcuse. He has been widely known as a pioneer in the field of sanitary products manufacture and distribution throughout the United States, and is a past-president of the National Assn. of Insecticide & Disinfectant Mfrs.

Name Rotenone Industry Unit

The War Production Board appointed an advisory committee for the rotenone processing industry on January 13, with Warren H. Moyer, chief of the insecticides and fungicides unit of the Chemicals Division as government presiding officer. Robert Joyce of Derris, Inc.; Harold King of R. J. Prentiss & Co.; Harold Noble of S. B. Penick & Co., and Russell B. Stoddard of Dodge & Olcott; all of New York, were named industry members.

The committee met in Washington, January 21, one of the important topics discussed being the amended conservation order on rotenone (M-133) the text of which was made public January 23. A suggestion originating among the membership of the committee was that an effort be made to secure OPA approval of a plan to raise the price ceiling on rotenone powders approximately five cents a pound on a per cent basis in an attempt to encourage the greatest possible increase in exports of root from South American countries of origin.

A meeting of the Household Insecticide Industry Advisory Commitee, originally scheduled for January 19 in Washington was cancelled early in January.

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O'Cedar Names O'Connor P. A.

O-Cedar Corp., Chicago, has just announced that Russell F. Elbel, who was employed by them as purchasing department assistant, left the service of the company on January 8, 1943. P. K. O'Connor, for many years with O-Cedar, has been appointed director of purchasing.

—— • ——

Form Canadian PCO Assn.

The following committeemen of the newly formed Canadian Pest Control Association were named at the recent first meeting in Ottawa: Organization, W. S. Bomby, Toronto, A. Friedman, Montreal; Constitution, E. J. Gentle, Hamilton, M. A. Sanderson, Toronto; Nominations; R. W. Menzie, Toronto, Harold Lees, St. Catherines and E. R. Bellemare secretary for all three groups.

REMEMBER?

10 YEARS AGO

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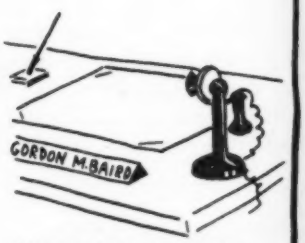
VICK CHEMICAL CO. INTRODUCED A NEW ANTISEPTIC

JOHN POWELL, TREAS., NAIDM, WAS PHOTOGRAPHED FOR PUBLICATION—SAME PHOTO STILL BEING USED IN 1943

A MODEL LAW GOVERNING REGULATION OF FUMIGATION WAS DISTRIBUTED BY U.S. PUBLIC HEALTH SERVICE

"BIF" WAS A NEW INSECT SPRAY INTRODUCED BY UNION OIL CO. OF CALIF.

THIS BOOK DESCRIBED A "HORRIBLE PICTURE OF A NATION POISONED BY DANGEROUS FOOD PRESERVATIVES AND DRUGS, AND THOUSANDS DYING BECAUSE THEY HAVE PLACED THEIR FAITH IN ANTISEPTICS WHICH DO NOT KILL BACTERIA"



GORDON M., SON OF C.C. BAIRD OF BAIRD & McGUIRE JOINED THE CO.

17 DIFFERENT GERMS WERE FOUND ON A COMMON BEDBUG

C. L. FARDWELL BECAME GENERAL SALES MGR., McCORMICK & CO.

H. W. HAMILTON OF KOPPERS WAS TRANSFERRED BACK TO KEARNEY, N.J. AFTER THREE YEARS IN PITTSBURGH

Amend Rotenone Order

ROTENONE moves from the position of a material subject to conservation control to one of strict and complete allocation in the amended version of Rotenone Order M-133 issued January 23, by the War Production Board. The new order is similar in many respects to the Pyrethrum Order, it now being necessary on rotenone sales to submit planned deliveries to the Director General by the tenth of the month preceding the period in which deliveries are to be made, and to await authorization for each delivery.

The specific uses for which rotenone will be allowed under the new order have been very sharply limited. Where it was formerly allowed for control purposes on a wide variety of agricultural crops, its use is now limited strictly to the following:

(1) Use in the protection of the following food crops against the following insects, or the manufacture of any preparation for such use:
   (i) Peas—protection against the pea weevil and pea aphid.
   (ii) Beans—protection against Mexican bean beetle.
   (iii) Cole Crops—other than cabbage—including: broccoli, brussels sprouts, cauliflower, kohlrabi, mustard, kale, turnips, and collards—for protection against caterpillars and aphids.
   (iv) Sweet corn—for protection against the European corn borer.
(2) Use on cattle for the specific control of the cattle grub (ox warble) or short-nosed cattle louse, or the manufacture of any insecticide for such use.
(3) Any other specified use, where specifically authorized or directed by the Director General for Operations.

Each label will have to carry a specific statement summarizing the allowable uses and indicating the fines and penalties imposed if it is used on other crops. Material now packed and in manufacturers' hands will have to be relabelled by adding a suitable sticker or tag.

An important change in the new order is the restriction placed on rotenone content of dusts, which is now limited to a maximum of 0.5 per cent, with a tolerance of 10 per cent to take care of unavoidable lack of uniformity. Another innovation is the specific prohibition against preparation of mixtures of rotenone and pyrethrum.

Inventory reports and control measures accompany the new order which provides that any person holding as of December 31, 1942, either 500 pounds of rotenone, 5,000 pounds of rotenone insecticides, or a combination of the two having a rotenone content of more than 500 pounds, must file on or before February 10 with the WPB a copy of Form PD-785 reporting such inventory.

◆

Review "Purex" Development

The new research laboratory of Purex Corp. at their South Gate, Calif., plant, was the subject of a story in the November issue of *Phoenix Flame*, house organ of Phoenix Metal Cap Co., Chicago. The story describes "Purex," tells how it is made, how used and the research in back of it, etc. Special reference is made to the Purex Intrafil Process of manufacturing "Purex" cleanser-bleach-disinfectant, and to the pioneering research which is being conducted in the new laboratory into the nature of sodium hypochlorite.

◆

Smith of Washburn Commissioned

L. O. Smith, general manager of the T. F. Washburn Co., Chicago, has been commissioned a lieutenant, j. g., in the Navy and left Feb. 1 to enter an officers training school at Dartmouth College.

◆

Parker Products Moves

Parker Products Co., Birmingham, Alabama, manufacturer of sanitary chemicals, for many years located at 1908 Morris Avenue, has moved to new quarters at 406 No. 23 St. The new quarters will house offices and shipping departments.

A Case of Mistaken Identity

To err is human, but it is sometimes very embarrassing. We were embarrassed last month when we opened the January issue of SOAP and discovered that we had mistakenly run a picture of John Marcuse in a story telling of the appointment of his cousin, James Marcuse, as a representative of the sanitary products industry on a new salvage committee. Both gentlemen were very gracious, however, in overlooking the mistake. Just to set the record straight we reproduce below the pictures of both representatives of the Marcuse family. John Marcuse, left, vice-president of West Disinfecting Co., L. I. City, N. Y., is a new member on the board of governors of the N.A.I.D.M. James Marcuse, right, president of West Disinfecting Co., is the sanitary products representative on the salvage committee referred to in January.

John Marcuse

James Marcuse

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Calif. Legislative Conference

Following the recent conference on agricultural legislation held recently in Sacramento, Calif., the State Department of Agriculture has prepared a summary of proceedings and recommendations resulting from the conference. Among those participating in the discussions affecting the insecticide industry was Esler Johnson, Pacific Coast representative of John Powell & Co., who is currently serving as general chairman of the legislative committee of the Pacific Insecticide Institute.

The section of the report dealing with insecticides, as reported by Dr. Alvin J. Cox, Chief, Bureau of Chemistry, California Department of Agriculture, is as follows:

(b) *Economic Poisons*

(1) Repeal of section 1062 reference U. S Pure Food and Drugs Act 1906 and California Pure Food Act 1907: The group recommends deletion of a portion of section 1062 of the Agricultural Code as it requires unnecessary explanation, and there has never been a provision for guaranteeing products under the United States Pure Food and Drugs Act of 1906, and California Pure Food Act of 1907, as implied in the section.

(2) Thallium salts for use of research and of chemical laboratories, and for ant poisons: The group recommends that section 1066 with respect to thallium salts be amended to provide authorization for sale to or for use by a research or chemical laboratory. It also recommends, subject to the Legislative Council Bureau's agreement as to its legality, that the last fifteen words of section 1066 be deleted and in lieu thereof words added such that the last three lines will read "or for sale to and for use by a registrant solely in the manufacture of ant poisons containing not more than thallium expressed as metallic 1.0 per cent, provided that the Director in his discretion may restrict sale, composition, or type of package as may protect the public health, or in any manner he deems necessary to protect public interest."

(3) Sale of ant poisons: The group recommends that "An act to regulate the sale and use of poisons in the State of California and providing a penalty for the violation thereof" approved March 6, 1907, that is, the so-called POISON LAW, and that section 4045 of the Business and Professions Code, that is, the so-called PHARMACY LAW, be amended to increase from 0.2 per cent to 0.4 per cent the quantity of arsenic expressed as metallic permissible in ant poisons to be sold to the public generally. This amendment was accepted and proposed by the State Board of Pharmacy at the last session of the Legislature.

(4) Economic Poisons Supervision: The economic poisons industry for several years has thought that administration of the POISON LAW with respect to *economic poisons* should be vested in the Department of Agriculture. The Chief of the Bureau of Chemistry has withdrawn his objections, believing that the industry has a good point in that control of economic poisons labeling should be all in one place. For example, although choropicrin in itself is self-warning when used as a fumigant, nevertheless, it should have a poison label not now required under the POISON LAW. Labels of economic poisons should bear antidotes giving instructions for use of materials readily accessible in rural areas. The industry desires to act in this matter only with the approval of the State Board of Pharmacy. The group recommends the amending of sections 2 and 3 of the POISON LAW in accordance with this statement.

Lt. Krebs Gets Wings—Wife

Neil Krebs, son of Charles E. Krebs, president and treasurer of American Standard Mfg. Co., Chicago, makers of wet mops, wax spreaders and dust mops, recently received his wings at Kelly Field, Texas, and is now a Rated Army Pilot. He is a second lieutenant. At the same time of the announcement of his becoming a pilot, Lieutenant Krebs announced that he is going to be married on February 4th, at the Chapel, Fort Sam Houston, San Antonio, Texas.

Container-Continental Merge

Container Company of Van Wert, Ohio, was merged with Continental Can Company of New York, it was announced recently. The result will be known as the Container Company division of Continental Can Co.

E. C. Kratsch Dies

Ed Kratsch, secretary of the National Sanitary Supply Association for the past 20 years, died at his home in Milwaukee, January 18. He had undergone a serious operation at the Methodist Hospital in Madison, Wis., earlier in the month, but was thought to be recovering.

Eastern PCO Meeting Success

Despite the triple hardships of heating, housing and transportation, from which New England is reported to be so acutely suffering, the Third Eastern PCO Conference, held at Massachusetts State College, Amherst, Mass., Jan. 11-13, was a success from the standpoints of the attendance, interest shown and practical accomplishment. Attendance of 124 was the largest in the history of the Conferences. Guests included 30 officers and men from the First and Second Service Commands, the entire district staff of the U. S. Fish and Wildlife Service, and unusually full representation from other governmental agencies and universities. Emphasis at the conference was placed on the importance of rat control as a war time measure; the public health aspects of pest control by Dr. Vlado A. Getting, Health Commissioner of Worcester, Mass.; Particle sizes and inerts as treated by Dr. Hansberry; and Vincent-Davis' "Technical Committee" report. Photo courtesy of Charles Opitz.

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War Dominates Purdue Conference

While "Pest Control: safeguard to health at home and abroad" was the slogan of the Seventh Annual Purdue Pest Control Operators Conference, the central theme was the impact of war on the industry. The war made itself felt in a number of ways at the conference, which was held at Purdue University, Lafayette, Indiana, January 4-8. At this year's conference the presence of U. S. Army officers as speakers, the subject matter of the lectures and the emphasis placed on substitute raw materials eloquently testified to the dominant note uppermost in the minds of the participants.

The first session, on Monday morning, Jan. 4, was devoted to a discussion of biology, morphology, and structure of insects and the fundamentals of insect control. Professors Davis, Lehker and Montgomery of Purdue led the discussions. The afternoon session, covering insect identification, was under the direction of Purdue Professor Deay.

Various reports on substitute chemicals were heard Tuesday morning. At this session a departure from the program, published in the December issue of *Soap & Sanitary Chemicals*, was S. Marcovitch of the Tennessee Agricultural Experiment Station, who told of his studies of fluorine compounds for roach control. Also previously unpublished was the appearance of Charles Denny speaking on the control of Pharoah's Ant. The Tuesday afternoon rat and mice session followed the pre-conference schedule with the exception of Justus C. Ward who reported on baiting and trapping procedures along with Galen G. Oderkirk of the U. S. Fish and Wildlife Service. A departure from the previous conferences was Tuesday evening's civilian defense session.

The topic "Fumigation" occupied the morning session Wednesday, going off according to the program published in the December issue of *SOAP*. There was one exception; the appearance of L. S. Roehm, of Dow Chemical Co., discussing "Package Foodstuffs with Special Reference to Fumigation." Termites, Powder Post Beetles and Wood Fungi rounded out the Wednesday afternoon session. Previously unannounced, Charles Denny spoke on carpenter ants, and Ira Hatfield of Monsanto Chemical Co. discussed "Wood Treatment Against Wood-Infesting Insects and Fungi."

A group of army officers and several representatives of the pest control industry discussed "the protection of health and morale of the armed forces" on Thursday morning. The chemistry of pest control filled the afternoon session.

The concluding session on Friday morning covered the topics already published and "Procedure in Spraying and Dusting" by Robert C. Yeager.

—— ♦ ——

Continental Can Head Dies

The death of J. Frederick Hartlieb, 65, president of Continental Can Co., occurred at New York Hospital (New York) January 26, after an illness of one month. Born in Cincinnati, he began his business career with the Worthington Pump & Machinery Co. Mr. Hartlieb joined Continental Can Co., Inc., as assistant to the president in 1927, becoming vice president in 1928 and a director in 1929. He was made a member of the executive committee in 1934 and executive vice president in 1936. He became president of the company in 1940.

—— ♦ ——

Monsanto Safety Drive

Monsanto Chemical Co., St. Louis, has launched an intensive "campaign against carelessness" among employees of all its United States plants. Starting with mass assemblies of workers at each place, the program is being continued in regular monthly meetings for discussion of accident causes, uses of safety equipment, first aid and other subjects. Posters are displayed, safety demonstrations are held frequently and, in some plants interdepartmental contests have been launched with special awards for outstanding contributions to the safety drive.

—— ♦ ——

Chicago Drug Assn. Meets

The Chicago Drug and Chemical Association heard a talk on "Espionage and Sabotage" at their Jan. 28 meeting at the Union League Club, the speaker being Frank D. Martinek, assistant vice-president of Standard Oil Co. of Indiana, and a former "G" man with the F.B.I. M. F. Charley, of Standard Pharmacal Co., president of the association, was toastmaster. Future meetings of the organization are scheduled for Feb. 25, March 25 and April 29.

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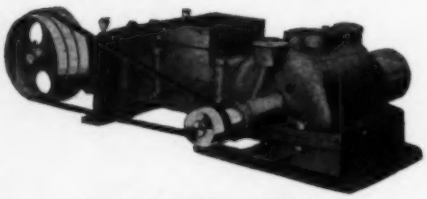

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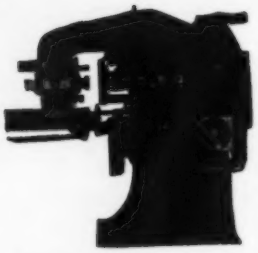

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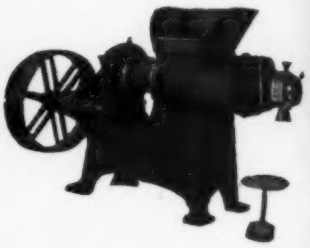

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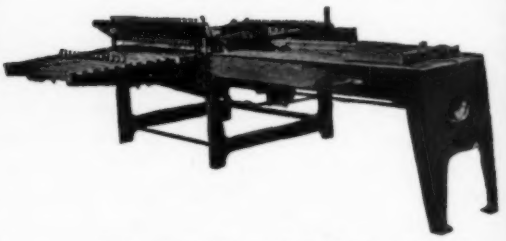

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Soapmaker and Chemist wants position. Anything in the soap line. Address Box No. 469, care *Soap & Sanitary Chemicals.*

Sales Agent—man with 20 years contact and well-known among manufacturers of soaps, textile specialties, and allied chemical products, desires to represent one or more manufacturers on the eastern seaboard in the sale of their products. For further details communicate with Box No. 462, care *Soap & Sanitary Chemicals.*

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Glycerine—Man experienced in glycerine recovery wanted by a leading fatty acid producer. Fine opportunity for man who can improve methods and increase yields. Give full record of experience. Address Box No. 456, care *Soap & Sanitary Chemicals.*

Chemist Wanted—Assistant in laboratory specializing in analysis and testing of detergents qualitative and quantitative inorganic chemical training and experience necessary. Cleveland area. State draft status and salary expected. Box No. 461, care *Soap & Sanitary Chemicals.*

Salesman Wanted by Up-state New York manufacturer of cleaning compounds, liquid and powdered soaps, insecticides and disinfectants. Liberal commissions, protected territory. Address Box No. 467, care *Soap & Sanitary Chemicals.*

Soapmaker thoroughly experienced with manufacturing of all types of toilet soaps and floating soaps, New York City, state experience and salary expected. Address Box No. 466, care *Soap & Sanitary Chemicals.*

Wanted — Sales Engineer — Chemist or Chemical Engineer with laboratory and plant experience in processing of edible, inedible oils, and fats with ability to administrate technical service and sales of bleaching clay division for leading chemical concern. Address Box No. 460, care *Soap & Sanitary Chemicals.*

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Floor Materials: Long established, reputable and financially responsible mid-western manufacturer of floor maintenance materials is seeking a technical man with thorough knowledge of floor finishing and maintenance products to head up a program of research. Please give full particulars in first letter. Address Box No. 475, care *Soap & Sanitary Chemicals.*

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Floor Brushes — We manufacture a very complete line. Catalogue sent upon request. Flour City Brush Company, Minneapolis, Minn., or Pacific Coast Brush Co., Los Angeles, Calif.

Will Purchase Immediately — Pneumatic Packaging Machine, used for chips, powder, cleanser; also dry mixers, chip dryers, crutchers, and automatic soap press. Address Box No. 465, care *Soap & Sanitary Chemicals.*

For Sale—A going and profitable sanitary supply business. Located in middle west and well established over many years of successful operation. Other interests require time of owner. Details available only upon establishment of authentic interest. No brokers. Will take about $75,000 to handle. Address Box No. 476, *Soap & Sanitary Chemicals.*

Closing out 1,700 cases (4,800 gallons) well-known brands. Lithographed cans, one-half pints to gallons attractively priced. Address Box No. 468, care *Soap & Sanitary Chemicals.*

For Sale: 2—5 Roll water cooled inclined steel roller mills, 16" dia. x 40" face. Allbright-Neil 3 x 8 ft. Flaking (chilling) Roll unit. Houchin-Aiken Foot Presses; 600 and 1500 lb. Soap Frames; Cutting Tables; Plodders, 12 x 30 and 16 x 40 Three Roll Water Cooled Steel Mills; 4 Roll Stone Mills; Dryers; Chippers; Powder Fillers; Mixers; Grinders; Filter Presses; Disc Filters; Pumps, etc. Send for Soap Bulletin No. 402. We Buy Your Surplus Equipment for Cash. Stein Equipment Corp., 426 Broome Street, New York City.

Wanted: Second-hand automatic soap dryer for the manufacture of soap chips. Please write giving location, price, condition and other details. Address Box No. 470, care *Soap & Sanitary Chemicals.*

Wanted to purchase completely equipped soap manufacturing plant now in business. Write full details first letter. Address Box No. 458, care *Soap & Sanitary Chemicals.*

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Wanted: One Westphal Specific Gravity Balance in good condition. Address Box No. 477, care *Soap & Sanitary Chemicals.*

Set Pyrethrum Prices

Maximum prices for pyrethrum flowers sold by importers in accordance with directives of WPB were set January 26, by the Office of Price Administration, at the importer's actual cost, plus transportation costs. Ceiling prices established for transactions under WPB orders are contained in Amendment 92 to Supplementary Regulation 14 to the General Maximum Price Regulation effective January 26, 1943. The maximum price shall apply whether or not the seller normally sells pyrethrum flowers in the ordinary course of his business, but "shall not apply to any sale which is not made in accordance with an order or directive of the War Production Board," the order states. All other sales, that is those not made under WPB order, remain under the general regulation at the highest levels prevailing in March 1942, plus specified allowance.

Felton Holds Sales Conference

Felton Chemical Co., Brooklyn, manufacturers of perfuming materials, recently held a sales convention in New York. Among those attending the convention were: Robert Felton of Los Angeles, manager of Felton's Western Division; Murray Hartstein of Chicago, manager of the Mid-Western Division; Hans Drasel of Philadelphia, manager of the Philadelphia branch; and William Zuckerman of Boston, manager of Felton's New England Division.

TABLE I. Results of Tests Conducted in Peet-Grady and Small Chambers.

Compound	Conc. Per cent By Wt.	Mean Percentage Mortality	Small Chamber	
		Peet-Grady	Screen Doors	Solid Doors
O.T.I.	—	51.2	47.3	49.3
n-Butyl carbitol thiocyanate	2	62.7	58.6	59.4
n-Butyl thiocyano-acetate	4	32.6	34.2	50.1
Average Standard Deviation	—	6.27	4.86	3.27

Small Chamber Method

(*From Page* 104)

pound by all three methods on the same day from flies obtained from a single culture jar. By this means variations in fly cultures are reflected equally in the results from each method. Approximately 100 flies were used in each test in the small chamber and approximately 400 for each test in the Peet-Grady chamber.

A highly refined kerosene which produced no mortality under the conditions of its use was employed as a solvent for the compounds used in the tests, the results of which are summarized in Table I and are indicative of the following conclusions:

1. That the results of small chamber tests are subject to less variation than those obtained from Peet-Grady tests. However, we believe that we have too few experimental results to justify such a conclusion at the present time.

2. That there is no significant difference between results obtained in the small chamber with screen doors and those obtained in the Peet-Grady chamber.

3. That the small chamber with solid doors may favor compounds having high vapor pressure such as *n*-butyl thiocyano-acetate.

There is a distinct difference in the rate of "knockdown" in tests made in the small chambers as compared to those made in the Peet-Grady chamber. Flies treated with the O.T.I. in the small chamber with solid doors are usually completely down in 40 to 60 seconds after the spray is delivered. Those similarly treated in the small chamber with screen doors are usually "knocked down" in 120 to 160 seconds; whereas, comparable tests in the Peet-Grady chamber require 200 to 240 seconds to produce the same degree of "knockdown." There are several obvious reasons for the faster rate of knockdown in the small chamber tests. First, the time required to apply the spray is a matter of two or three seconds in the small chamber as compared to 30 to 45 seconds in the Peet-Grady test. Second, there is a more rapid and uniform distribution of the spray material in the small chambers.

We do not wish to propose either variation of our small chamber method as a substitute for the Peet-Grady procedure. We believe, however, that in cases where time, money, labor and compounds of unknown value are involved to any appreciable extent that one of the variations of our small chamber methods will prove to be a useful supplement.

Assoc. Chemists N. Y. Office

Associated Chemists, Inc., Chicago, manufacturers and importers of pyrethrum products, basic insecticides, drugs and chemicals, have just opened a New York office at 132 W. 43rd Street to accommodate customers in the Eastern territory of New York, New Jersey and New England. J. Van Velsor Smith is in charge of the office.

Canadian PCO Conference

Another in the series of Pest Control Operators' Conferences is to be held at the University of Montreal, Montreal, Canada, March 18, 19 and 20. The conference will be sponsored by the University, with the cooperation of the National Pest Control Association and the newly formed Canadian Pest Control Association.

Hibbeler Joins CWS

Arthur A. Hibbeler of Monsanto Chemical Co.'s Chicago sales staff, has enlisted in the Army Chemical Warfare Service and is now taking the basic training course at an officer candidate training camp in Alabama. Before leaving Chicago on Dec. 17, Mr. Hibbeler was tendered a farewell party by Chicago associates.

Offer U. S. Specification Products

A new war-time sales plan for sanitary supply and janitor supply dealers and jobbers has been announced by William F. Plowfield, head of Industrial Sales for the R. M. Hollingshead Corp., Camden, N. J. and New York. To enable jobbers and dealers to supply local war plants and government agencies with various products meeting Army, Navy and other government specifications, a number of these products are being offered by Hollingshead ready-packed under specification number. The products available are numerous items specified by government departments to be used by war plants under contract. They include rust preventives and other corrosion preventive materials, fire extinguisher fluid, brake fluids, gasket cement, lubricating specialties, and other industrial items. Resale arrangements are being made on a basis of protected areas for dealers and jobbers within various territories.

William Plowfield

Hirschberg Agency V.-P.

Sanford L. Hirschberg has been elected a vice-president of Peck Advertising Agency, New York, with which he has been associated for over ten years as an account executive. His accounts include Felton Chemical Co., Brooklyn, and Dodge & Olcott Co., New York.

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

"For the love o' Pete, this ain't no time to relax, Bongo!"

...don't relax!

WAR or no war, this is no time to relax your advertising and selling effort. If your firm and brand names have any value, and you still expect to be in business after the war, don't relax your efforts to keep your customers remembering who you are and what you sell. Don't give them a chance to forget you!

If you want to keep people in the field of soaps, insecticides, disinfectants, chemical specialties, etc., remembering you and what you sell, there is no surer way than regular advertising in

SOAP *and Sanitary Chemicals*
254 WEST 31st STREET NEW YORK

Member Audit Bureau of Circulations

Tale Ends

JUST back from Washington and the annual soap meeting . . . around in the Government departments where clever chit-chat and well-rounded phrases are always the vogue, the expression of the hour is "on the beam." Everything is or is not "on the beam." If you don't mention "on the beam" at least once every two minutes, you're definitely a rank outlander. We also note as well that "off the record" still retains all of its previous popularity. It's becoming quite a job keeping abreast of Washington big-time talk. We haven't heard anybody mention "off his nut" lately. Maybe it could be appropriately revived . . . we mean in Washington.

* * *

With manpower growing more scarce, National Safety Council's drive for increased vigilance in accident prevention, especially in plants doing war work should be heeded now more than ever.

* * *

Do your share in your own community to keep the fat salvage drive moving. It's vitally important to every soaper, large or small. Keep after your local newspapers to keep stuff running to keep the waste fats coming from home and restaurant.

* * *

WPB is investigating frozen sheet metal in the hands of insecticide sprayer manufacturers apparently with a view to having it released for the manufacture of much-needed sprayers.

* * *

Paper restrictions are forcing publishers to curtail in every possible manner. It is likely to become tougher as time goes on. Accordingly, if you receive a subscription renewal bill, please send in your check promptly to avoid missing any issues of *Soap & Sanitary Chemicals*. Missed issues will probably not be obtainable later.

* * *

If glycerine production drops off too much, we would not be surprised to see a proportion of some so-called edible oils and fats released to soapers before the year is over.

UNCO SIMILE LAVENDER

WITH the present shortage of natural Oil Lavender, we recommend UNCO SIMILE LAVENDER to impart a true lavender odor to fine toilet soaps . . .

1. UNCO SIMILE LAVENDER comes very close to the character of the natural oil . . .
2. UNCO SIMILE LAVENDER odor is long lasting and completely stable in soaps . . .
3. UNCO SIMILE LAVENDER will not discolor white soaps . . .
4. UNCO SIMILE LAVENDER is available at a price which is within the perfuming cost range of even the lower-priced toilet soaps . . .
5. UNCO SIMILE LAVENDER has met the test of long and successful practical use in toilet soaps, shampoos, shaving creams, lotions . . .

Write us for a sample . . .

UNGERER & COMPANY

161 Sixth Ave. New York

PARADOW

PARADICHLORBENZENE

EASY TO MOLD
HANDY TO PACKAGE

PARADOW is an adaptable, practical product. Easy to mold, handy to package, it meets all manufacturing preferences and requirements.

PARADOW, pure paradichlorbenzene in crystal form, is always uniform in every respect. It is noted for its top quality. Write for samples and quotations.

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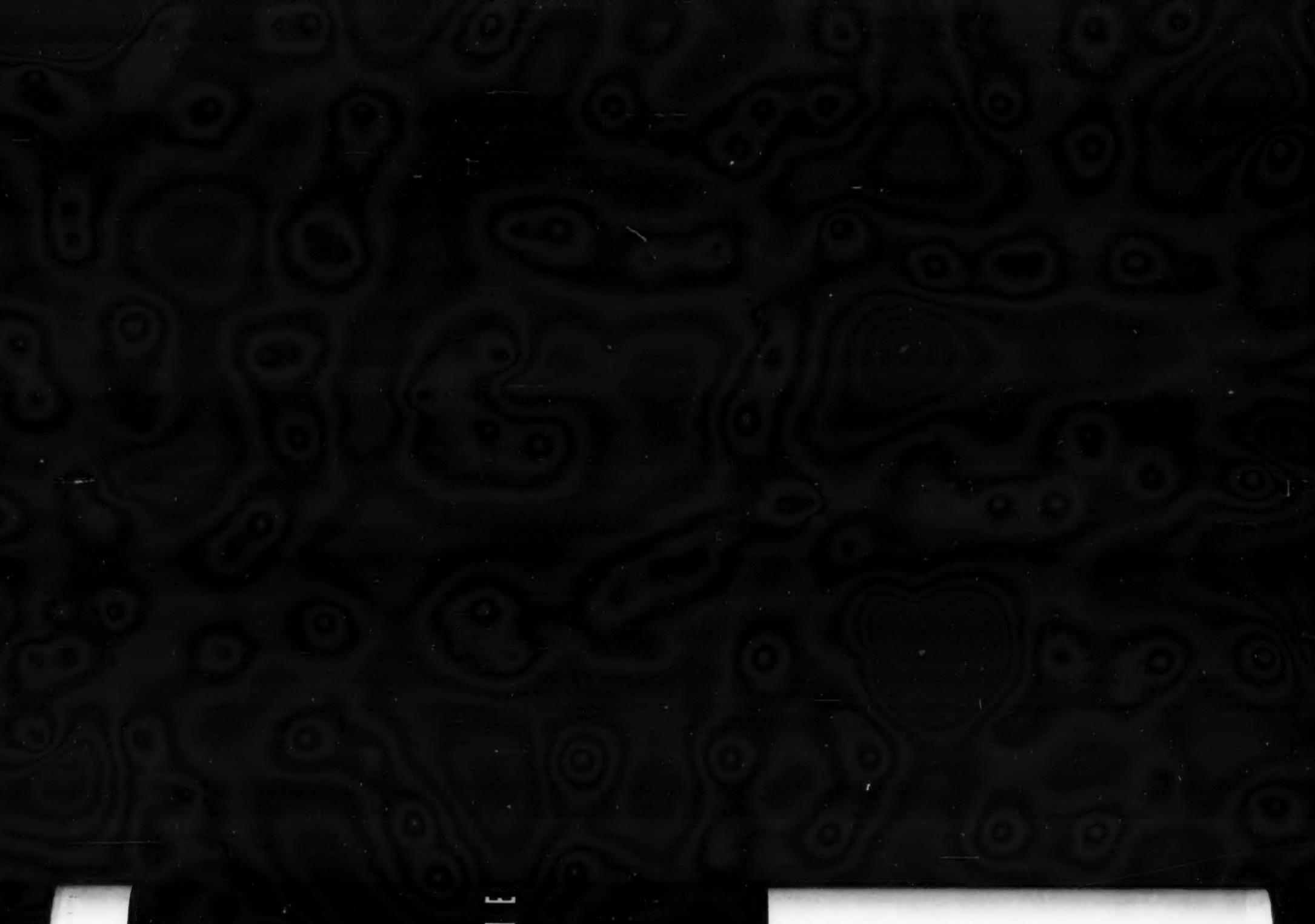
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